



Ship Material Condition Metrics Model

Maintenance Figure of Merit (MFOM) 2.0



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MFOM PM, USFF N434

3 October 2007

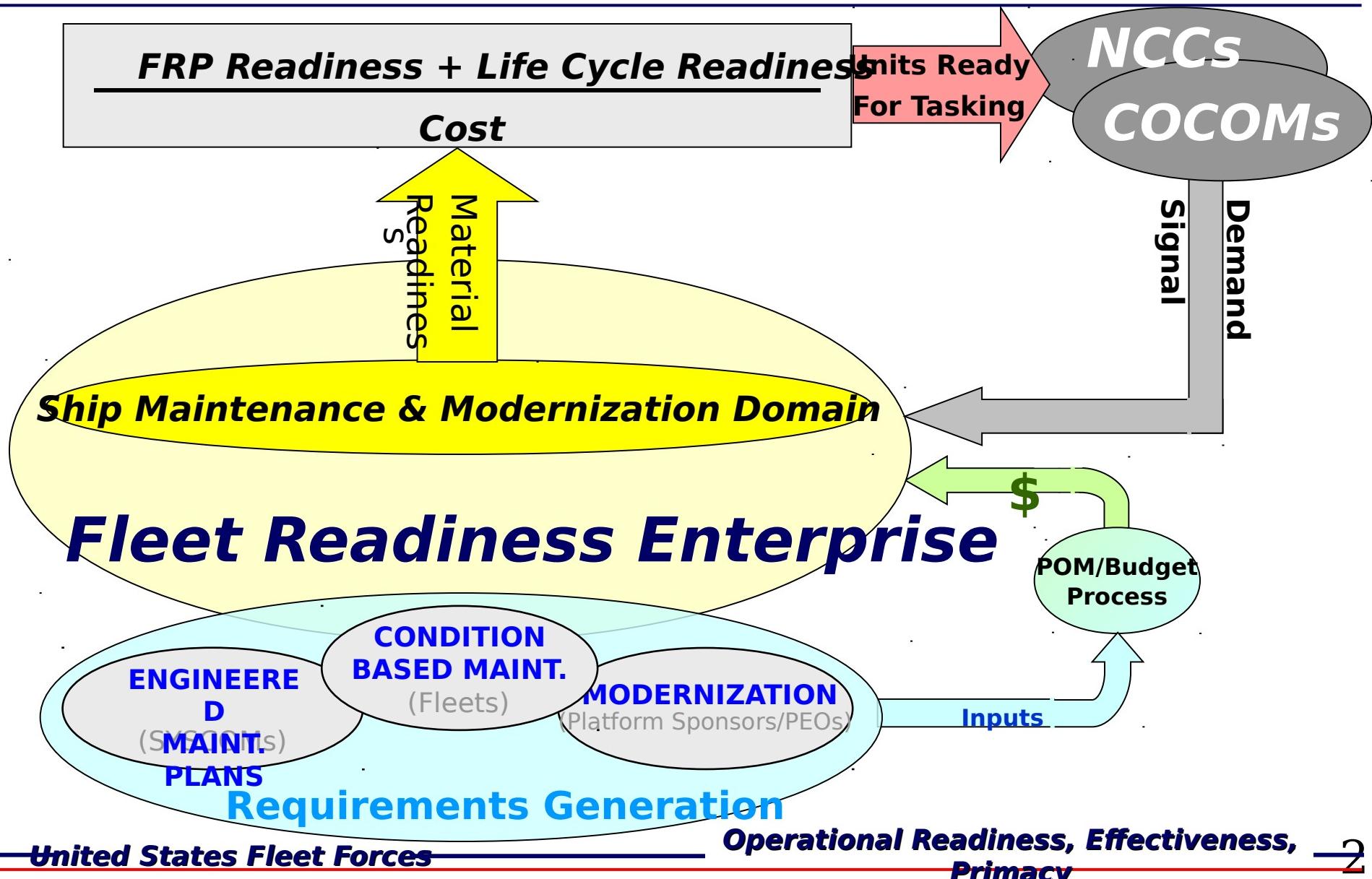
OSD Brief

United States Fleet Forces

Operational Readiness, Effectiveness, Primacy



Today's Maintenance Strategy





How does MFOM help?

MFOM 2.0 Provides 3 Significant Tools

- **Material Readiness Reporting Tool for Ship Systems**
 - MFOM calculates and reports a percentage of readiness for shipboard equipment and systems based on the documented material condition
 - MFOM uses standard material reporting tools
- **Screening Value for Maintenance Actions**
 - MFOM provides each maintenance action a numerical value based on the Equipment Operating Capability (EOC) and system impact
 - This allows for the prioritization of maintenance actions based on their contribution to material readiness
- **Material Readiness - Resources Tool**
 - MFOM identifies the funding required to reach a certain level of material readiness based on the documented material condition



Basics of MFOM

- MFOM 2.0 is a computer based tool built on a hierarchical structure that calculates against operational requirements
- Designed to consistently and objectively calculate a material condition readiness value for equipment, systems, tasks, missions or the ship.
 - MFOM resides on the classified and unclassified networks both ashore and afloat
 - MFOM is accessed through any internet connection
 - MFOM is modeled based on input from operational and technical Subject Matter Experts
 - MFOM takes into account redundancy and system interdependency

Near real time reporting of ship's material condition to support maintenance planning and operational readiness reporting (supports DRRS-N)



MFOM Data Inputs

- **MFOM takes input from existing documentation**
 - **Automated Work Requests (i.e., 2 Kilos)**
 - Inspections, Certifications, Assessments and Visits (ICAVs)
 - Alterations
 - Repair work
 - CASREPs, etc
 - **Tag-outs (eSOMS)**
 - **Machinery Monitoring Systems (e.g., ICAS)**
 - IPARS
 - **Class Maintenance Plans**
 - **Other Technical Documentation (DFS, UROs, IMMPs, Master Spec Catalog, MRCs)**
- **MFOM starts with existing ship's configuration data**
 - All records for each hull from CDMD-OA



Building the Model

A Coordinated Group Effort

• 40 Government Activities

Fleet Forces Command
NSWCCD-SSES Philadelphia
NSWC Crane
NSWC Port Hueneme
NSWC Corona
NSWC Indian Head
NSWC Dahlgren
NAWC Lakehurst
NSWC Panama City
Carrier Planning Activity
NSLC Mechanicsburg
Center for Naval Analysis
COMFISCS
Office of Secretary of Defense
(AT&L)

CNSF, CNAF, CSF
NUWC Newport
NSWC Louisville
NAVAIR
NSWC Earle
Port Engineers
PEO Ships, Sub, & Carriers
Norfolk Naval Shipyard
(LHA/LHD)
Puget Sound Naval Shipyard
(MCM)
Boston Detachment
(FFG, LSD, LPD)
Navy ERP

SUBMEPP
SPAWAR San Diego
SPAWAR Charleston
SPAWAR Chesapeake
SUPSHIP Bath
SUPSHIP Newport News
SUPSHIP Pascagoula
NAVSEA
NETWARCOM
AIS Center Norfolk
NAVSUP
OPNAV N81/N43
Office of Naval Research
INSURV
MARMC

• 18 Contractors

CDI	Northrop Grumman	Newport News	Lockheed Martin	Tech Assist
MANTECH	Northrop Grumman	Pascagoula (CG)	Booz Allen Hamilton	General Dynamics
CSC	Bath Iron Works (DDG)		Antech Systems	SAIC
CACI	MI Technical Solutions		Romulus	
EG&G	UNISYS		L3 Comm	

***Operational Readiness, Effectiveness,
Primacy***



Status

- **Shipboard Implementation**
 - Expanded on DRRS-N software rollout schedule
 - Installed on BATAAN ESG, ENTERPRISE CSG and NIMITZ CSG, GEORGE WASHINGTON, JACKSONVILLE and others (24 ships)
 - Plan to have 50 ships by Dec 31 and all ships within 15 months
- **Shore Implementation**
 - Classified
 - West coast production servers up for surface ships and subs/carriers
 - 214 ships reporting to DRRS-N
 - 214 ships reporting material condition in MFOM
 - All surface ships are generation 2 models on production - reporting to DRRS-N
 - All SSN 688's on production - reporting to DRRS-N
 - All carriers on production - reporting to DRRS-N
 - No U-NNPI is displayed
 - Unclassified
 - West coast production servers up for surface ships and subs/carriers
 - NSWC Crane has distance support sites up
- **Next Developments**
 - ATM (Phase I - October 2007- delivers this week)
 - IUID (Pilot ship USS FORREST SHERMAN DDG-98 Completes October 2007)
 - Fleet Assessment Tool (Completes October 2007 - delivered)
 - NNWC modeling of shore facilities (Completes November 2007)
 - Validation, Screening & Brokering (Completes March 2008)



Ship's Material Condition Readiness

MFUM : Current Status mFUM c Microsoft Internet Explorer provided by Navy Marine Corps Internet

File Edit View Favorites Tools Help

Back Search Favorites Internet Address https://105.113.199.102/mfum/mfum.html

MFOM version 2.1.0

SHIP MODEL UPDATE NEWS SECURITY LEVEL UNCLASSIFIED

RIGHT MAINTENANCE. RIGHT TIME. RIGHT COST.

MY PROFILE HELP DESK FAQS UTILITIES SEARCH LOGOUT ADMINISTRATION SCREEN

Maintenance Team Tools > Current Status mFUMs | Availability | Screen Work | Availability Impact | Financial

Hull: DDC 25 Scenario: Deployment Data Processed: 200-246

Employment: 07/08/2008 Model Date: 10/18/2005 Data Update: 10/20/2005

USS McCAMPBELL (DDC 25)

Index By Warfare Area:

Warfare Area Description	ASU	INT	MOR	AAW	AMW	ASW	STW	BMD	C2W	CCC	FSO	HCO	MW
Threshold	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.70	0.70	0.70	0.60	0.33	
Index	0.50	0.55	0.33	0.50	0.35	0.38	0.44	0.52	0.50	0.51	0.45	0.48	0.34
Projected Index Value	0.06	0.02	0.03	0.09	0.07	0.04	0.05	0.03	0.01	0.03	0.27	0.04	0.00

HULL's

0.73	threshold
0.45	mFOM
0.04	Projected mFOM

Service Details:
Top 1 of 1 Show All

Data Details:

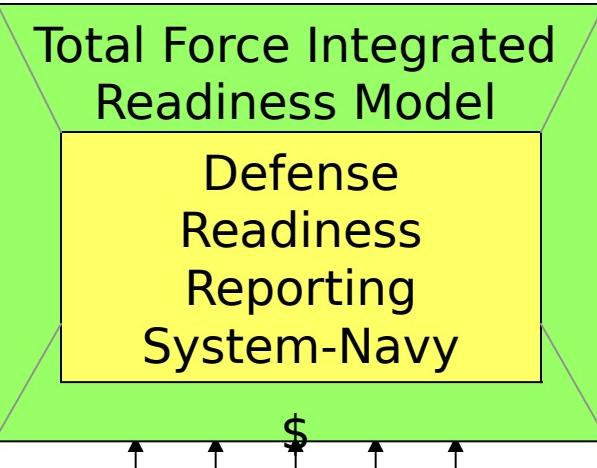
WAR	LINKED/ LIKE WORK	EFFECT	W/C-JSN	EOC	NARRATIVE	AVAIL	REPAIR ACTIVITY	REC	mFOM-e	Incl	Excl
ASU	166	0.61	EM020441	0.3		A123		Y	0		
ASU	163	0.66	EM020439	0.0	REMOVE AND REPLACE C SUMP	A123		Y	11.04		
ASU	167	0.78	PE04Q012	0.6	PROVIDE WAREHOUSE	A123		Y	41.10		
ASU	164	1.0	CF020267	0.0	TAO VDDS MONITOR FAILURE			N	52.58		
ASU	165	0.67	CM020226	0.0	BAD MO DRIVE			Y	61.19		
ASU	130	0.89	EM020393	0.8	CORRODED DRIP PAN			Y	75.90		
ASU	62	0.92	EM020426	0.8	HOPM FLOW METERS OUT OF CAL			Y	79.24		
ASU	20	0.80	CG030076	0.0	NIGHTVISION HAS BROKEN KNOB			Y	81.13		
ASU	119	0.91	OT020072	0.8	MOVE DCC CUT-OUT SWITCH			Y	82.25		
ASU	42	0.87	CM020187	0.0	BAD POWER SUPPLY IN MCP			Y	84.47		
ASU	42	0.87	CM020207	0.6	FUSES			Y	84.47		
ASU	43	0.87	CM020195	0.0	DAMAGED DELUGE HOSE			Y	84.47		
ASU	43	0.87	CM020196	0.0	DAMAGED DELUGE HOSE			Y	84.47		
ASU	43	0.87	CM020197	0.0	DAMAGED DELUGE HOSE			Y	84.47		
ASU	44	0.87	CM020188	0.0	BAD POWER SUPPLY IN MCP			Y	84.47		
ASU	71	0.87	CM020234	0.0	TRANSFORMERS			Y	84.47		
ASU	135	0.87	CM020222	0.0	DAMAGED W29 CABLE ASSEMBLY			Y	84.47		
ASU	135	0.87	CM020192	0.6	DAMAGED DELUGE HOSE			Y	84.47		
ASU	141	0.87	CM020228	0.0	DAMAGED T3 AND T4 ON A3			Y	84.47		
ASU	144	0.87	CM020233	0.0	TRANSFORMERS			Y	84.47		
ASU	139	0.97	CM020224	0.8	IMA PERFORM 7211 R-26			N	84.47		
ASU	140	0.97	CM020227	0.8	IMA PERFORM 7211 R-26			N	84.47		
ASU	121	0.93	EM010350	0.6	PUMP CALIBRATION REQUIRED	B123		Y	85.54		
ASU	124	0.93	EM010352	0.8	POST DEPLOYMENT INSPECTION	B123		Y	85.54		
ASU	123	0.94	EM010351	0.6	CALIBRATION REQUIRED FOR GAGES	B123		N	86.51		
ASU	126	0.96	EM040181	0.0	STRIPPED VALVE STEM	B123		N	89.47		
ASU	1	0.94	CI020324	0.0		B123		N	89.66		
ASU	1	0.94	CI020325	0.0	NO COMMS ON SWCS RADIO	B123		N	89.66		
ASU	1	0.94	CSE10006	0.0	NO COMMS ON SWCS RADIO	B123		N	89.66		
ASU	1	0.94	CI020322	0.0	NO COMMS ON SWCS RADIO	B123		N	89.66		
ASU	1	0.94	CSE10007	0.0	LOSS OF COMMS ON SWCS RADIO	B123		N	89.66		
ASU	1	0.94	CSE10008	0.0	NO COMMS ON SWCS RADIO	B123		N	89.66		
ASU	1	0.94	CI020323	0.0	NO COMMS ON SWCS RADIOS	B123		N	89.66		
ASU	1	0.94	CSE10009	0.0	NO COMMS ON SWCS RADIO	B123		N	89.66		
ASU	1	0.94	CSE10010	0.0	NO COMMS ON SWCS RADIO	B123		N	89.66		
ASU	90	0.90	EM010349	0.0	FAULTY DISCRET OUTPUT CARD			Y	90.53		
ASU	138	0.95	CSE10030	0.0	FAULTY SYNTHESIZER ON RCVR 2			N	90.80		
ASU	6	0.99	OI01R012	0.0	MISSING RED LIGHT AND PLACARD			N	91.47		
ASU	125	0.97	EM010354	0.8	CORROSION CONTROL REQUIRED			N	91.99		
ASU	45	0.97	EM020394	0.8	CORROSION CONTROL DOOR 2-262-2			N	92.04		
ASU	132	0.93	CF020268	0.0	XSTAB 10 POWER FAILURE			N	92.24		
ASU	74	0.96	CSE10004	0.0	BIT TEST FAILURE ON USC-55			N	92.34		

New Readiness Values indicated after repairs are made

Software indicates which items should be repaired to support the next mission



Feeding Readiness Metrics



DRRS-N Screen

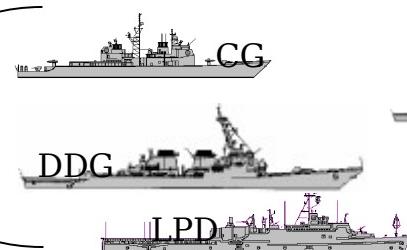
DRRS Screen

PESTO

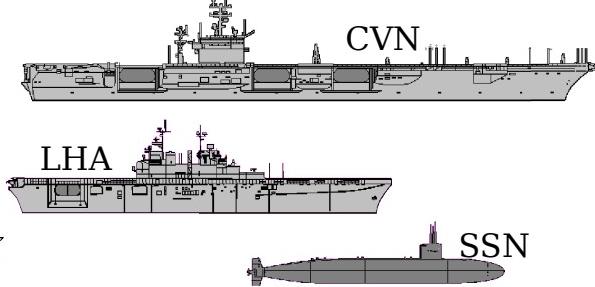
NTAs

MFOM

- Track air targets
- Move units



MRAS





Strike Group Page

.92.31.174.110/mfomdemo/strikegroupdashboard.aspx

Version 1.2
SHIP MODEL UPDATE NEWS
SECURITY LEVEL
UNCLASSIFIED
9/11/2007

MY PROFILE : HELP DESK : FAQS : UTILITIES : SEARCH : LOGOUT : ADMINISTRATOR SCREEN

Fleet Maintenance Officer Tools > Dashboard | Parameters

Strike Group Dashboard

BONHOMME RICHARD Deployment Date: 31 Jul 2007

Threshold	MFOM
1.00	0.74

USS McCAMPBELL - DDG 85 Current MFOM: 0.61 Projected MFOM: 0.46 Total Mandays: 244

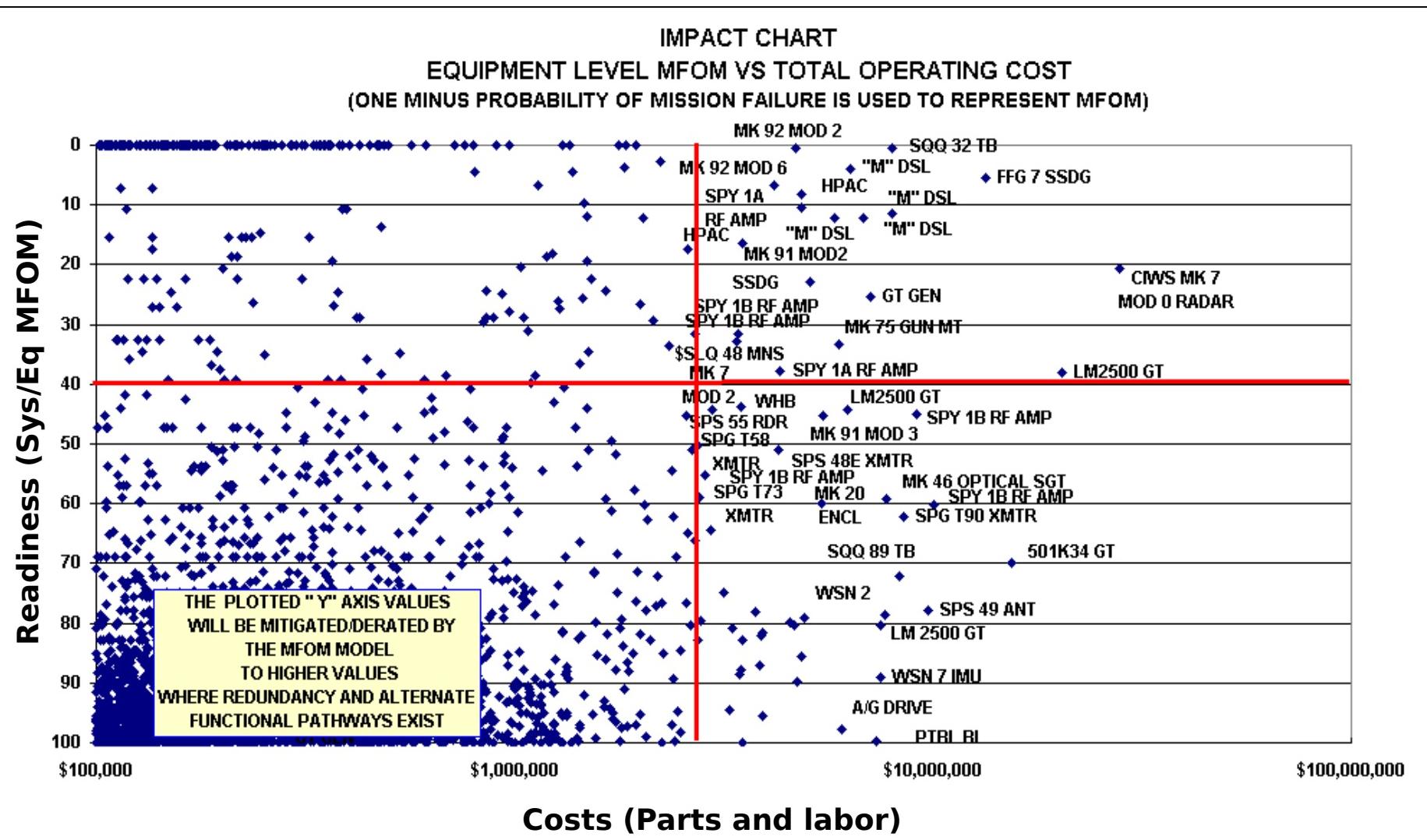
USS SHOUP - DDG 86 Current MFOM: 0.86 Projected MFOM: 1.00 Total Mandays: 13

KEARSARGE Deployment Date: 31 Aug 2007

Threshold	MFOM
1.00	0.82



TMA/TMI Data Analysis





Predictive MFOM

The screenshot shows the MFOM Future Status screen for the USS McCampbell (DDG 05). It includes sections for Ship Model Update News, Security Level (UNCLASSIFIED), and Regional Maintenance Center Tools. The main area displays a grid for Future Status, a table for Edit Scenario and Budget Control Values, and a MFOM Table with Work List details.

Future Status Grid:

Hull	Model Date	Version	Status FY								
USS McCampbell (DDG 05)	10/18/2005	Master	2009								
1670	C7C	E123	Q1 Q2 Q3 Q4								
FY 2007 FY 2008 FY 2009 FY 2010 FY 2011 FY 2012 FY 2013 FY 2014											

Edit Scenario and Budget Control Values:

Fiscal Year	2007 Deployment	2008 Deployment	2009 Deployment	2010 Deployment	2011 Deployment	2012 Deployment	2013 Deployment	2014 Deployment
Recommended	280.00 K\$	380.00 K\$	280.00 K\$	380.00 K\$	280.00 K\$	310.00 K\$	240.00 K\$	280.00 K\$
Funded	280.00 K\$	380.00 K\$	280.00 K\$	380.00 K\$	280.00 K\$	310.00 K\$	240.00 K\$	280.00 K\$

MFOM Table and Work List:

Corrective Maintenance		Preventive Maintenance		Scheduled Alterations	
Total: 160.00 K\$					
ASU	INT	KOG	AAW	ANW	ASW
WR	IN	BN	ISC	EOC	HOA
EQUIPMENT					
ASU	INT	KOG	AAW	ANW	ASW
WR	IN	BN	ISC	EOC	HOA
572	7A93	512-12563	VALVE OPERATOR	03/02/2007	0
570	7A93	512-125711	VALVE OPERATOR	07/26/2007	0
571	7A93	512-125722	VALVE OPERATOR	02/04/2008	0

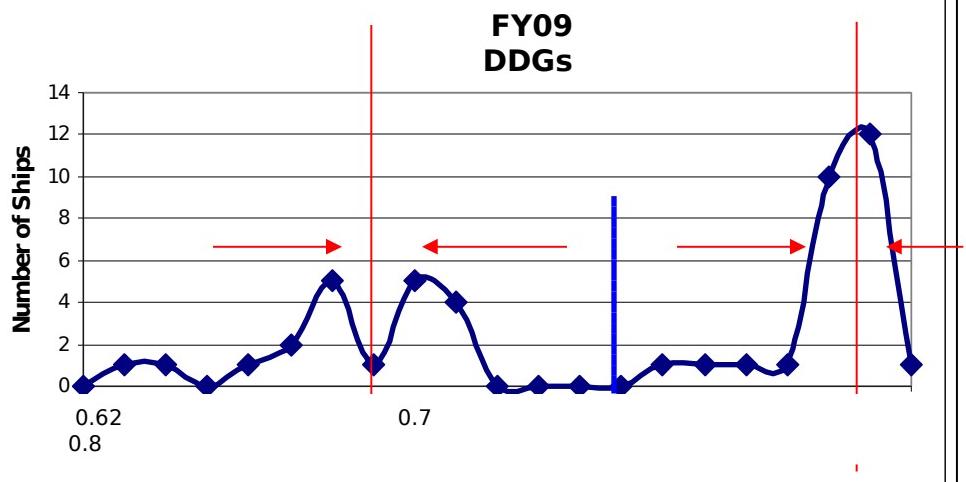
- **Future Status Screen**
 - The “main” screen for MFOM Predictive
- **Five Sections**
 - Ship/Version/Year selection
 - Availability Schedule
 - Budget Requirements & Controls
 - MFOM Table
 - Work List



MFOM Predictive Output Data

Class Summary of Readiness Values, Man-days and Material Costs

Individual Hull Build-up of Readiness Values, Man-days and Material Costs



Class Summary									
Fiscal Year	2007	2008	2009	2010	2011	2012	2013	2014	
Hull Threshold	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Predictive MFOM	0.88	0.86	0.86	0.85	0.86	0.85	0.86	0.85	0.85
Rec MFOM	0.93	0.93	0.93	0.92	0.92	0.92	0.91	0.92	0.92
Funded MFOM	0.93	0.93	0.93	0.92	0.92	0.92	0.91	0.92	
Recommended	180,000.00 Ks	244,475.75 Ks	1,725,78.23 Ks	205,824.96 Ks	202,944.87 Ks	211,641.41 Ks	160,957.4 Ks	228,623.57 Ks	
Funded	180,000.00 Ks	244,433.47 Ks	1,725,78.23 Ks	197,316.98 Ks	200,944.87 Ks	211,273.70 Ks	160,957.4 Ks	228,623.57 Ks	

Fiscal Year	2007	2008	2009	2010	2011	2012	2013	2014
Scenario	Post Avail	Deployment	Post Avail	Deployment	Deployment	Post Avail	Deployment	Post Avail
Hull Threshold	0.62	0.8	0.62	0.62	0.8	0.62	0.8	0.62
Predictive MFOM	0.87	0.88	0.88	0.88	0.88	0.88	0.88	0.8
Rec MFOM	0.97	0.88	0.97	0.88	0.86	0.98	0.86	0.97
Funded MFOM	0.97	0.88	0.97	0.88	0.86	0.98	0.86	0.97
Recommended	8,405.15 K\$	0.00 K\$	8,047.74 K\$	0.00 K\$	0.00 K\$	1,248.26 K\$	0.00 K\$	8,771.84 K\$
Funded	8,405.15 K\$	0.00 K\$	8,047.74 K\$	0.00 K\$	0.00 K\$	1,248.26 K\$	0.00 K\$	8,771.84 K\$
Avail	SRA	SRA	SRA	SRA	SRA	DSRA	SRA	SRA
Items	207		261			129		276
Mdays	15900		15538			2134		16418
Material	1,642.98 K\$		1,569.81 K\$			313.48 K\$		1,569.11 K\$
Total..	8,405.15 K\$		8,047.74 K\$			1,249.26 K\$		8,771.84 K\$

DDG 53: US\$ JOHN PAUL JONES								
Fiscal Year	2007	2008	2009	2010	2011	2012	2013	2014
Scenario	Deployment	Post Avail	Deployment	Post Avail	Deployment	Post Avail	Deployment	Deployment
Hull Threshold	0.8	0.63	0.8	0.63	0.8	0.63	0.8	0.8
Predictive MFOM	0.87	0.86	0.89	0.87	0.87	0.87	0.9	0.85
Rec MFOM	0.87	0.96	0.89	0.96	0.87	0.96	0.9	0.85
Funded MFOM	0.87	0.94	0.89	0.87	0.87	0.97	0.9	0.85
Recommended	0.00 K\$	8,126.83 K\$	0.00 K\$	8,844.05 K\$	0.00 K\$	8,447.65 K\$	0.00 K\$	0.00 K\$
Funded	0.00 K\$	8,081.17 K\$	0.00 K\$	992.95 K\$	0.00 K\$	8,529.94 K\$	0.00 K\$	0.00 K\$
Avail		SRA		EDSRA		ESRA		
Items		177		45		223		
Mdays		14950		1995		14902		
Material		1,554.08 K\$		101,62 K\$		1,582.77 K\$		
Total		7,961.55 K\$		992.95 K\$		8,529.94 K\$		

FY 2009-10 USGS CURTIS WILBUR								
Fiscal Year	2007	2008	2009	2010	2011	2012	2013	2014
Scenario	Deployment	Post Avail	Post Avail	Deployment	Post Avail	Post Avail	Post Avail	Deployment
Hull Threshold	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Predictive MFOM	0.86	0.85	0.91	0.89	0.87	0.91	0.89	0.91
Rec MFOM	0.86	0.99	0.99	0.89	0.99	0.99	0.99	0.91
Funded MFOM	0.86	0.99	0.99	0.89	0.99	0.99	0.99	0.91
Recommended	0.00 Ks	10,070.08 Ks	7,723.76 Ks	0.00 Ks	7,739.30 Ks	7,722.92 Ks	7,741.48 Ks	0.00 Ks
Funded	0.00 Ks	10,070.08 Ks	7,723.76 Ks	0.00 Ks	7,739.30 Ks	7,722.92 Ks	7,741.48 Ks	0.00 Ks
Avail		DSRA	SRA		SRA	SRA	SRA	
Items	184		143		163	139	163	
Midays		19130		14667		14704	14665	14708
Material		1,995.79 Ks	1,563.19 Ks		1,563.19 Ks	1,563.19 Ks	1,563.69 Ks	



Decision Process

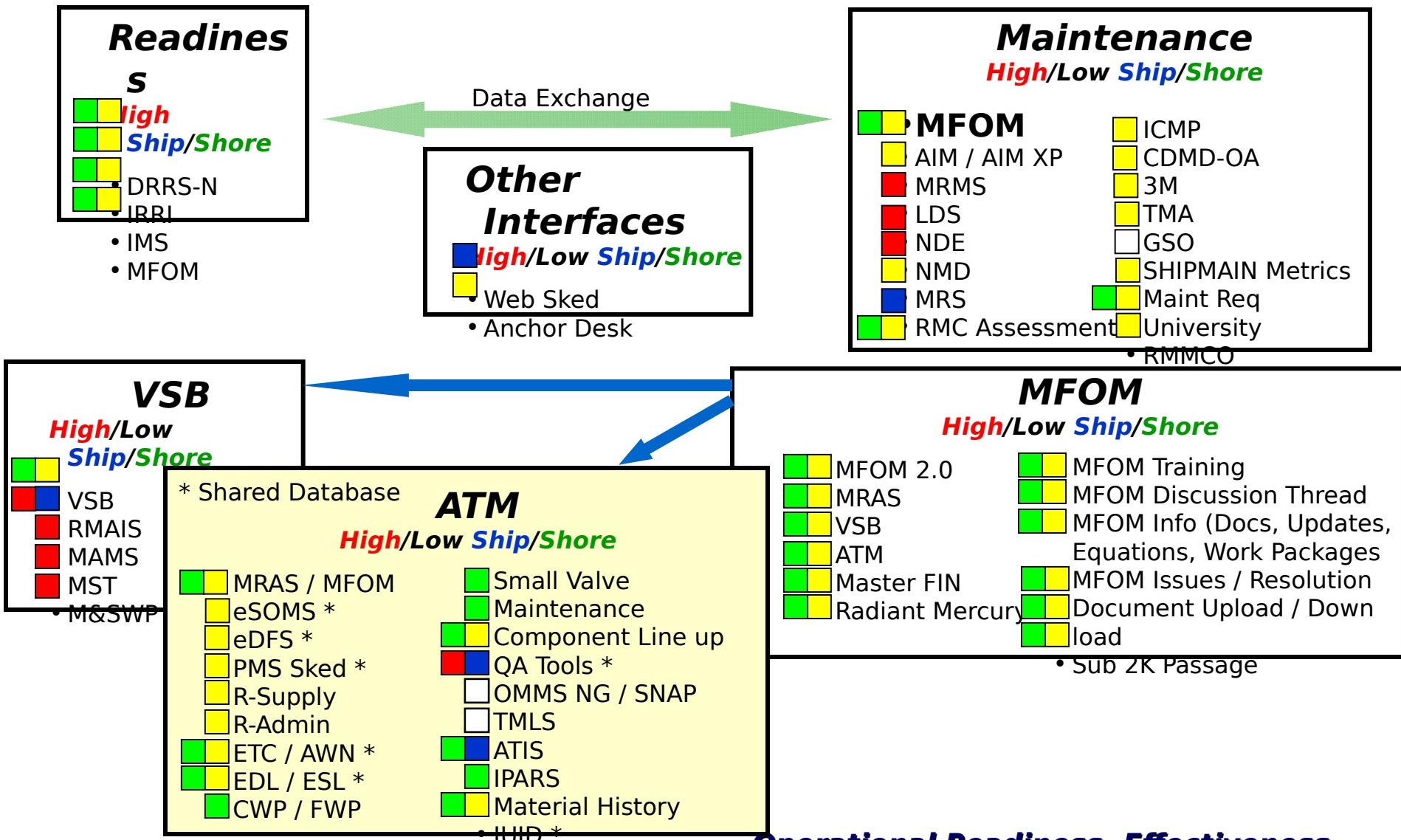
- Starting with FY-08, notionally cut or add man-days to availabilities to accomplish appropriate readiness values

- Center FDNF and deployers readiness values around 0.8 readiness
- Center non-deployers readiness values around 0.7 readiness
- End-result of fiscal year calculations will provide for a net positive or negative requirement of notional man-days for class availabilities
- Repeat the process for each fiscal year through FY-13
 - Data available by class and availability type
- End-result of process calculations provides for a net positive or net negative requirement of notional man-days for class availabilities across the FYDP
- Process repeated for each surface ship class
 - If positive, will have man-days to return to an individual FY budget
 - If negative, will build a back-log of required maintenance to keep ships at appropriate readiness level



Readiness / Maintenance Interfaces

Yellow	2 way Interface
Blue	1 way to MFOM
Red	Abandon/Replace
Green	New
White	Link Only - no data passing





FIN

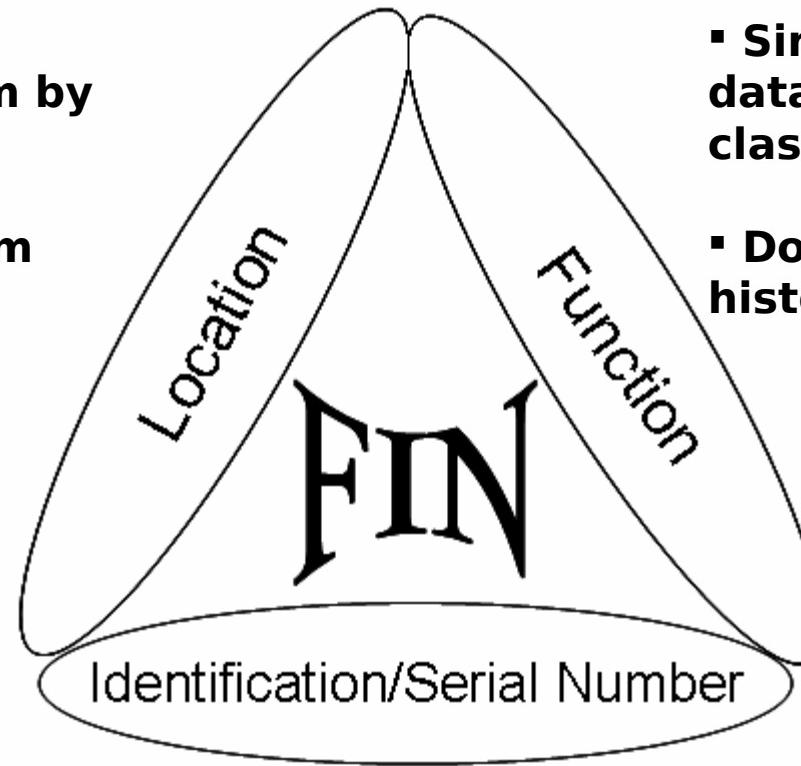
(Location)(Function)(ID)

Functional Index Number (FIN):

A alpha/numeric value assigned to all items in the model.

- Uniquely identifies every shipboard item by function
- Identifies same item across ship classes

- Simplifies retrieving data across ship classes
- Documents material history



Location:
Compartment Number,
Compartment Name, or XYZ Coordinates

Function:
Defines the operational contribution, action, purpose or activity of an object.

Identification/Serial Number:
Applies an Item Unique Identifier to an object.

Can be composed of an IUID or Material

Identification Number *Operational Readiness, Effectiveness, Primacy*



IUID DDG 51 Pilot Project Overview

- MFOM 2.0 implemented a pilot project integrating IUID technology
 - Uses MRAS shipboard database
 - Effort focused on DDG-51 class
 - Pilot Ship USS FORREST SHERMAN (DDG-98)
- Targets items that will have maintenance performed on them during the course of a one year period through the tag out system.
- There were two major components involved in the pilot;
 - Determining the plan for uniquely identifying shipboard equipment and assets
 - Application of IUID technology to mark legacy equipment and assets and register IUID numbers in the DoD registry
- Marking takes place primarily at the organizational level during maintenance.
- MRAS and MFOM were modified to track equipment with an associated IUID.



Project Schedule

- ✓ **By 31 January 2007:**
 - Determine procurement requirements for IUID marking technology
- ✓ **By 1 February 2007:**
 - Develop training curriculum and material for training Ship's Force
- ✓ **By 1 April 2007:**
 - Conduct Pre-Pilot testing at the NSWCCD-SSES to verify database communications
- ✓ **By 1 May 2007:**
 - Begin application of IUIDs on shipboard equipment
 - Conduct training for ship's force personnel
- ✓ **By 1 September 2007:**
 - Complete DDG 51 Class Pilot program IUID application
- ✓ **By 30 September 2007:**
 - Complete post DDG 51 Class Pilot program analysis and reporting



Project Schedule

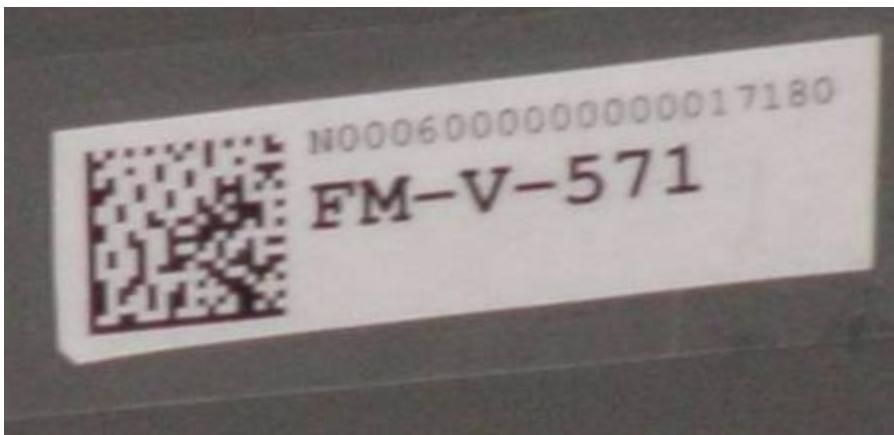
- ✓ Identify Construct # 1: Enterprise Identifier / Serial Number Requirements

USFF UIC (DoDAAC) / Special Handling Indicator/Unique Random Serial Number

- ✓ Develop and implement IUID Data processes and policy for DDG 51 legacy items:
- ✓ Develop non-shipboard initial IUID SOP
- ✓ Determine UID tag type and application/attachment process
- ✓ Determine standard IUID reader requirements
- ✓ Develop initial IUID SOP shipboard
- ✓ Initial Pre-Pilot project plan for testing of DDG 51 Class IUID Project at NSWCCD-SSES Philadelphia
- ✓ Identify approximate DDG 51 Class shipboard item inventory for Pilot IUID/MID labeling:
 - ✓ Project ship identified as USS FORREST SHERMAN DDG 98
 - ✓ ESOMS inventory identified
 - ✓ Commence shipboard pilot. ESD 23 April 2007



Ships with IUID implementation



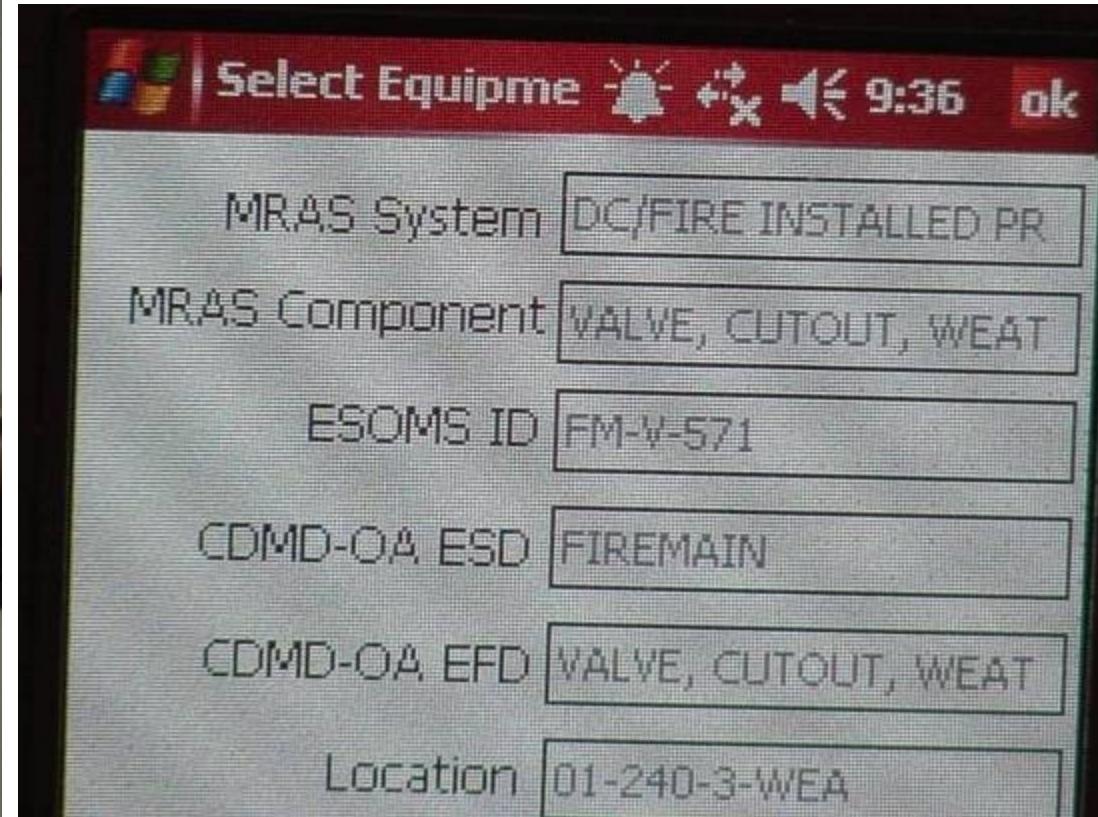
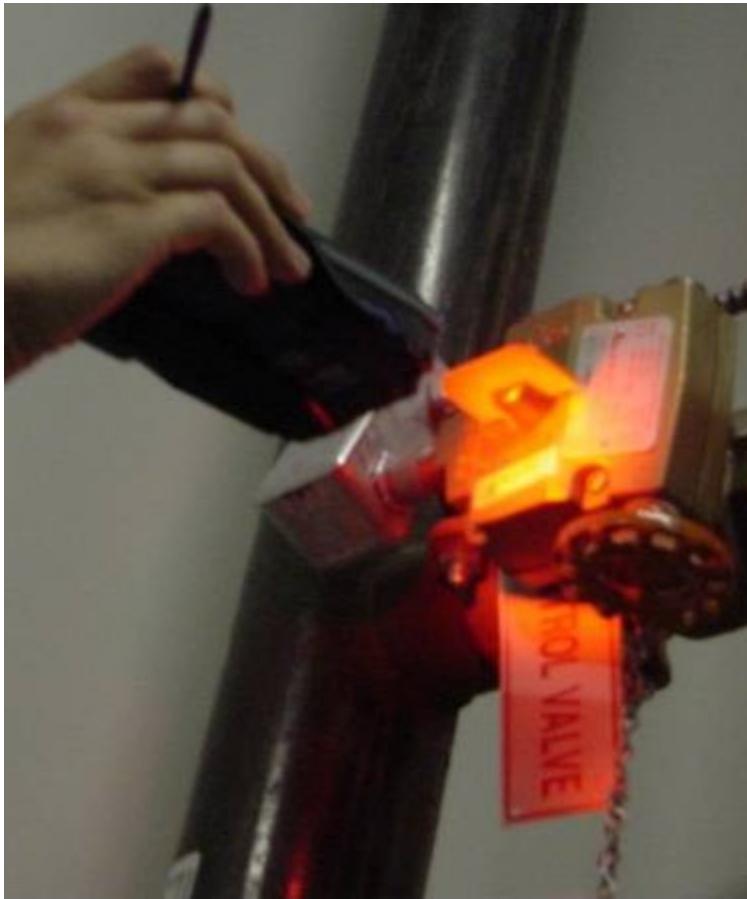
IUID Tag



IUID Tag on Valve



Scanning with IUID tags

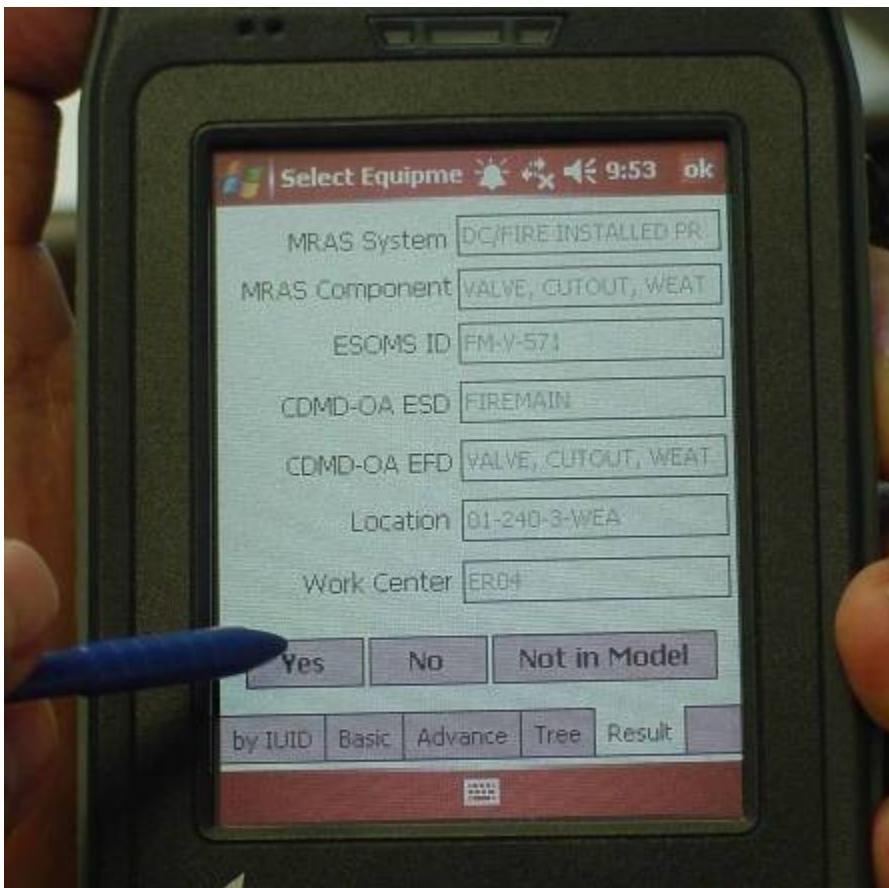


Scanning

Results of Scan

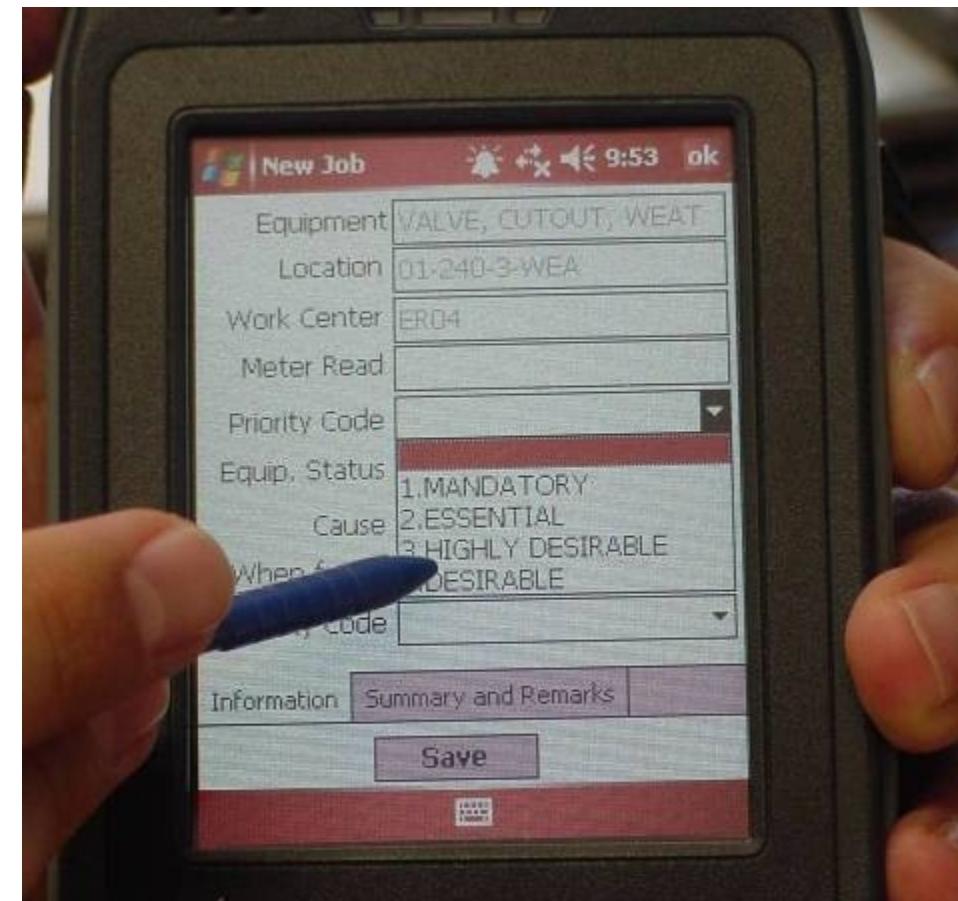


Handheld Job Creation



A handheld device screen showing a list of equipment components. A blue stylus is pointing at the "Not in Model" button at the bottom.

MRAS System	DC/FIRE INSTALLED PR			
MRAS Component	VALVE, CUTOUT, WEAT			
ESOMS ID	FM-Y-571			
CDMD-OA ESD	FIREMAIN			
CDMD-OA EFD	VALVE, CUTOUT, WEAT			
Location	01-240-3-WEA			
Work Center	ER04			
Yes				
No				
Not in Model				
by IUID	Basic	Advance	Tree	Result



A handheld device screen showing a "New Job" form. A hand is holding a blue stylus over the "Priority Code" dropdown menu, which is currently set to "1. MANDATORY".

New Job	9:53	ok
Equipment	VALVE, CUTOUT, WEAT	
Location	01-240-3-WEA	
Work Center	ER04	
Meter Read		
Priority Code	1. MANDATORY 2. ESSENTIAL 3. HIGHLY DESIRABLE 4. DESIRABLE	
Equip. Status		
Cause		
When		
Code		
Information	Summary and Remarks	
Save		

Confirming Equipment

Creating Job



AWN in Stand Alone mode

Sun Aug 14 2011 Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Search Favorites Bookmarks Check AutoLink AutoFill Send to Settings

Address http://localhost:1102/ffc2/default.aspx

Google G Go Links

DDG 102 Super Trial | Change Password | Log Out user1

Automated Work Notification

Home Create New View / Edit Reports Help Admin

Current inspection is DDG 102 Super Trial Change Inspection

View CSMP

My Cards 15

Department	Star	Priority	Safety	Location	Equipment
AS	3	S		AN/ARR-75V4	SURVEILLANCE SYSTEMS AN/ARR-75V4 SQQ-89 SCSRADIO RECEIVER SET, SONAR BOUY 03-142-0-C
AS	3	S		AN/ARR-75V4	SURVEILLANCE SYSTEMS AN/ARR-75V4 SQQ-89 SCSRADIO RECEIVER SET, SONAR BOUY 03-142-0-C
AS	3	S		AN/ARR-75V4	SURVEILLANCE SYSTEMS AN/ARR-75V4 SQQ-89 SCSRADIO RECEIVER SET, SONAR BOUY 03-142-0-C
AS	1			BOX, JUNCTION, ELEC, SON	SURVEILLANCE SYSTEMS BOX, JUNCTION, ELEC, SONAR 0.5-28-0-Q ALM, SAF&WRN SYBOX, JUNCTION, ELEC, SONAR 0.5-28-0-Q
AS	1			BOX, JUNCTION, ELEC, SON	SURVEILLANCE SYSTEMS BOX, JUNCTION, ELEC, SONAR 0.5-28-0-Q ALM, SAF&WRN SYBOX, JUNCTION, ELEC, SONAR 0.5-28-0-Q
AS	1			BOX, JUNCTION, ELEC, SON	SURVEILLANCE SYSTEMS BOX, JUNCTION, ELEC, SONAR 0.5-28-0-Q ALM, SAF&WRN SYBOX, JUNCTION, ELEC, SONAR 0.5-28-0-Q
AS	2			AN/ARR-75V4	SURVEILLANCE SYSTEMS AN/ARR-75V4 SQQ-89 SCSRADIO RECEIVER SET, SONAR BOUY 03-142-0-C

Local intranet



AWN Maintenance Mode EOC values

Confirmation - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Home Stop Refresh Favorites Search MyStuff Zoom News Shopping

Address http://itesting.0gpt.net/confirmation.aspx?thkey=27903721

Search Web Highlight MyStuff Zoom News Shopping

Google G

DDG-PPCSMP | Change Password | Log Out user

Settings

Automated Work Notification

Home Create New View / Edit Reports Help Admin

Equipment: ALM, S&P&WRN BY BOX, TERMINAL., E-PN-90

Location: 0.5 20 0 0

Work Center: CAD1

Meter Reading:

Priority Code: 4 - DESIRABLE

Equipment Status: 1 - OPERATIONAL

EOC Values: 0.7 - Minor problems

Cause of Failure:

When Discovered Code:

Safety Code: 3 - MODERATE SAFETY C

Summary:

Remarks:

Save

EOC Values

Value Range	Description
0.0	Red
0.1	Pink
0.2	Orange
0.3	Yellow
0.4	Light Green
0.5	Dark Green
0.6	Light Green
0.7	Dark Green
0.8	Light Green
0.9	Dark Green
1.0	Green

1.0 - Fully operable: System or equipment capable of performing all required functions with only cosmetic discrepancies.

Javascript:void(0)

Internet



ATM
Afloat Toolbox 4 Maintenance



Purpose of the ATM

- **Strategic Goals**
 - **Better data for MFOM/MRAS**
 - Improved 2K / Notification accuracy (correct equipment identified, symptom/EOC captured)
 - Non-2K impacts to readiness captured (Tag outs and Not completed PMS)
 - **Reduce the burden on the sailor for managing and performing maintenance**
 - Provides ship's force with a single entry portal for maintenance management
 - Improves visibility to the maintenance plan (CSMP, EDL, the Chief's wheel book)



ATM Drawers

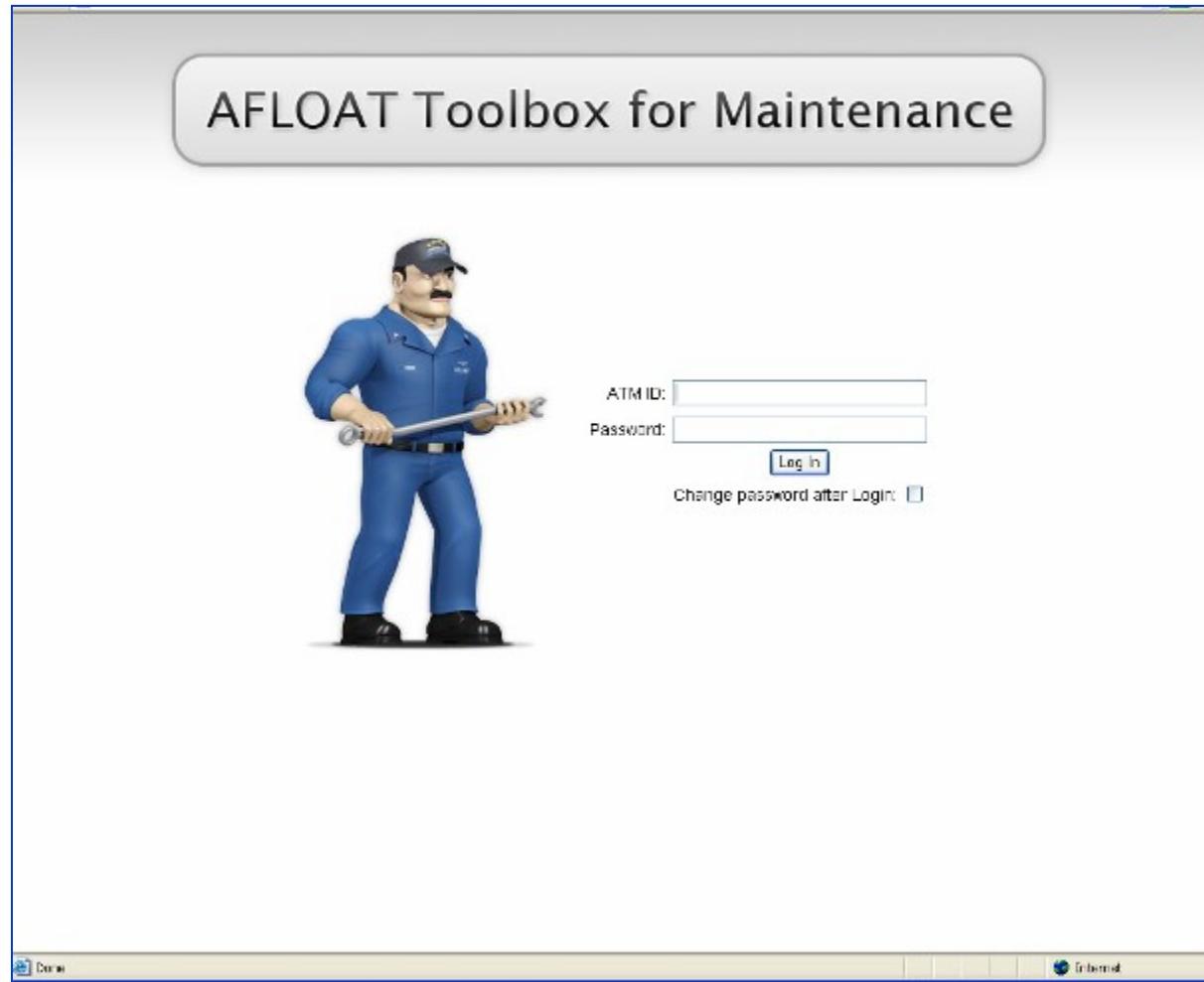
- Mission Readiness Assessment System (MFOM Afloat)
- IUID
- E-Forms (EDFS)
- ESOMS
- PMS SKED
- AWN & ETC
- EDL/ESL Trouble Call Manager)
- VSB (for Shore Maintenance Team)
- Component Line Up
- CWP / FWP
- LMAIS
- Material History
- Reports
- Small Valve Maintenance
- MRAS Training
- IPARS
- Handheld Updates
- Global Distance Support Help Desk
- ATIS
- CDMD-OA
- R-Supply
- R-Admin
- MFOM Shore
- Navy Maintenance Data
- Navy Data Environment
- RMMCO
- TMLS
- OMMS-NG
- QA Toolkit
- Vibration Analysis

Phase I Oct 07
Phase II Jul 08

Operational Readiness, Effectiveness,
Primacy



ATM Login



ATM Login



ATM Interface

AFLOAT Toolbox for Maintenance

Toolbox | User Login Passwords | User Administration | Application Administration | Log Out - LEEKER

Automated Work Notification
more >

ATM		
AWN	MRAS	EDFS
MRAS Class	CASREP	MFOM
Reports	Training	Handheld Updates
Support	eSOMS	SKED
TMLS	EDL/ESL	R-Admin
CDMD-OA	VSB	R-Supply

GO NAVY!

Drawer Opens To Launch Application



Electronic Departure From Specs

Address: <http://hammer.mantech-wva.com/edfs/default.aspx>

Departure From Specifications

DFS QUEUE CREATE NEW DFS FORM USER MANUAL ACCOUNT SETTINGS USER ADMINISTRATION LOG OUT

SELECT DEPARTURE FROM SPECIFICATION REQUEST

Filter results by: All Search:

DES	JCN	Description	Status	Date	QA12A Date
Options FFG 52-10001-2007	EM011853	#1 Potable Water Pump / #1 MMR	QA12 Submitted	2007/06/04	
Options	987654	Windshield	QA12 Incomplete	2007/06/25	
Options FFG 52-10000-2007	000000	Control Panel	QA12 Submitted	2007/06/24	

Create New DFS

edfs/PDFDisplay.aspx

Print Select 65%

Add like a copy for your records.

DEPARTURE FROM SPECIFICATION REQUEST
QA FORM 12
COMRFLTRFORCOMINST 4790.3 REV A CH-4

1. DEPARTURE #: FFG 52-11000-2007	2. SHIP: USS CARR (FFG 52)	3. JCN: X JUN 080805	4. CWP SER. #: 5. DATE: 6/24/2007
6. ORIGINATOR NAME: ManTech Winton		7. DEPARTURE TYPE: <input type="checkbox"/> MAJOR <input checked="" type="checkbox"/> MINOR <input type="checkbox"/> SURFACE <input type="checkbox"/> AIRC <input type="checkbox"/> TWR <input type="checkbox"/> PWD <input type="checkbox"/> SFCC	
8. ADDITIONAL CLASSIFICATION (SHIP/TYPE/CLASS ONLY): <input type="checkbox"/> WARFARE <input type="checkbox"/> DEVIATION <input type="checkbox"/> SSR <input type="checkbox"/> TWD <input type="checkbox"/> PWD			
9. ISIC CONCURRENCE (REQUIRED FOR CONDITIONAL DFS): <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
10. SYSTEM INCOMPATIBILITY & SHORT DESCRIPTION: Control/Feed			
11. NAVSEA DRAWING/PLAN NUMBER/FILE NUMBER:			
12. REFERENCES: Control Panel/Manual			
13. APPLICABLE SPECIFICATIONS: Should light up			
14. SITUATION/ROLE OF NON-COMPLIANCE: Doesn't light up			
15. COMMUNICATED/CONFIRMED (TEST CONDUCTED, AFFECTION SYSTEMS): Fix			
16. DATE SUBMISSION REQUESTED BY: 6/24/2007	17. SUBMITTING ACTIVITY/TYPE: DEPTY NAVSEA NAVAL TECH AUTHORITY FOR ACTION: ManTech Winton		
18. JCN NUMBER FOR CONDITIONAL DEPARTURES:			
19. US APPROVAL COMMENTS:			
20. ISIC: <input type="checkbox"/> APPROVED <input type="checkbox"/> DISAPPROVED <input type="checkbox"/> CONCUR, FORWARDED TO TYCOM LOCAL TECH AUTHORITY FOR ACTION: NAME: SIGNATURE: DATE:			
21. TYCOM: <input type="checkbox"/> APPROVED <input type="checkbox"/> DISAPPROVED <input type="checkbox"/> FORWARDED TO NAVSEA/NAVAL TECH AUTHORITY FOR ACTION: NAME: SIGNATURE: DATE:			
22. LOCAL TECHNICAL AUTHORITY: <input type="checkbox"/> APPROVED <input type="checkbox"/> DISAPPROVED <input type="checkbox"/> FORWARDED TO NAVSEA/NAVAL PER ACTION: NAME: SIGNATURE: DATE:			
23. NAVSEA/NAVAL: <input type="checkbox"/> APPROVED <input type="checkbox"/> DISAPPROVED <input type="checkbox"/> TEMPORARY <input type="checkbox"/> PERMANENT <input type="checkbox"/> PROVISIONAL: NAME: SIGNATURE: DATE:			
24. COPY TO:			

Departure From Specifications

DFS QUEUE CREATE NEW DFS FORM USER MANUAL ACCOUNT SETTINGS USER ADMINISTRATION LOG OUT

* = INDICATES REQUIRED FIELD
** USE PROVIDED NAVIGATION NOT THE BROWSERS BACK BUTTON

1. DEPARTURE NUMBER: AUTO FILL BY SYSTEM
2. SHIP: USS CARR (FFG 52)
3. JCN:
4. CWP SER NUMBER:
5. DATE: 2007/06/04
6. ORIGINATOR NAME: Rick Leeker

Next **Cancel**

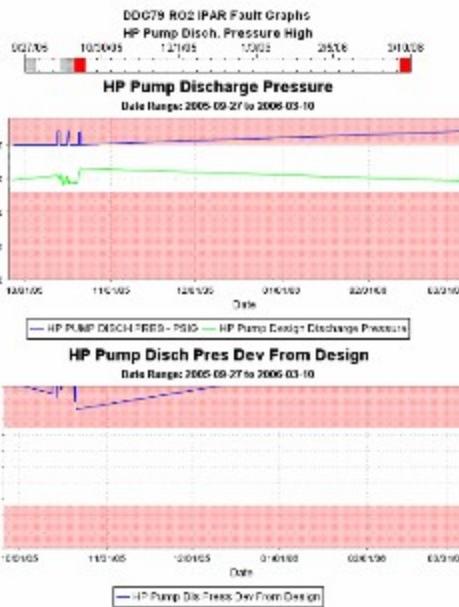
DFS Submissions from Ship



IPAR Integration



Current System IPAR



Stoplight Equipment Representation

ICAS Equipment Data





Software Screenshots



MFOM version 2.1.3
RIGHT MAINTENANCE. RIGHT TIME. RIGHT COST.

SHIP MODEL UPDATE NEWS SECURITY LEVEL
UNCLASSIFIED

HELP DESK WELCOME

LOGIN

User ID:

Password:

Request

mFOM

Maintenance Figure of Merit (MFOM) is an index value that measures the material condition component of ship's readiness. mFOM 2.0 utilizes Ship's Material Condition Maintenance (SMCM) models for all Surface Navy equipment and ships.

These models, along with a mathematical algorithm, will provide a numerical value indicating the ship's ability to perform its mission, based on its material condition. By tracking a ship's material condition, mFOM will allow maintenance managers to meet the surge deployment goals of the Fleet Response Plan (FRP) and will assist in allocating resources based on a ship's expected operational deployment; the "right" maintenance at the "right" time.

FEEDBACK

Please provide feedback on technical issues and website content to:

Mr. David Grefe, NSWC, Corona, <david.grefe@navy.mil>



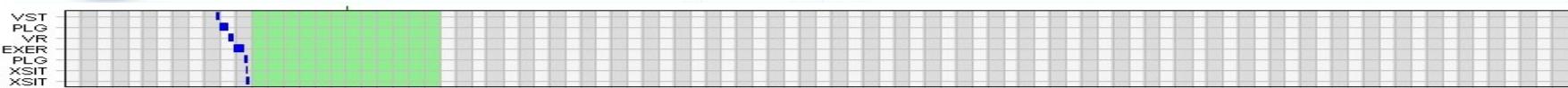


mFOM

version 2.1.3
RIGHT MAINTENANCE. RIGHT TIME. RIGHT COST.

SHIP MODEL UPDATE NEWS

SECURITY LEVEL
UNCLASSIFIED

[MY PROFILE](#) : [HELP DESK](#) : [FAQs](#) : [UTILITIES](#) : [SEARCH](#) : [LOGOUT](#) : [ADMINISTRATOR SCREEN](#)
Maintenance Team Tools
[Current Status mFOM-e](#) | [Availability](#) | [Screen Work](#) | [Availability Impact](#) | [Financial](#)


Hull:

DDG 85

Scenario:

Deployment

Data Processed: 200/246

Employment:

07/08/2009

Model Date: 10/18/2005

Data Update: 10/20/2005

USS McCAMPBELL (DDG 85)Index By Warfare Area:

Warfare Area Description	ASU	INT	MOB	AAW	AMW	ASW	STW	BMD	C2W	CCC	FSO	NCO	MIW
Threshold	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.70	0.70	0.70	0.60	0.33
Index	0.50	0.51	0.33	0.50	0.35	0.38	0.44	0.52	0.50	0.51	0.45	0.48	0.34

HULL's
0.73 threshold
0.45 mFOM

Recommended

Help

Service Details:

Top 1 of 1 Show All

Data Details:

Top 50 of 199 Show All



Ship's Material Condition Readiness

MFOm : Current Status mFOm-e - Microsoft Internet Explorer provided by Navy Marine Corps Intranet

File Edit View Favorites Tools Help

Back Search Favorites Media Address https://10.5.113.149/mfomdemo/metricsRollup2.aspx Go

mFOm version 2.1.3
RIGHT MAINTENANCE. RIGHT TIME. RIGHT COST.

SHIP MODEL UPDATE NEWS SECURITY LEVEL UNCLASSIFIED

MY PROFILE : HELP DESK : FAQS : UTILITIES : SEARCH : LOGOUT : ADMINISTRATOR SCREEN

Maintenance Team Tools > Current Status mFOm-e | Availability | Screen Work | Availability Impact | Financial

Hull: DDG 85 Scenario: Deployment Data Processed: 200/246
Employment: 07/08/2008 Model Date: 10/18/2005 Data Update: 10/20/2005

USS MCCAMPBELL (DDG 85)

Index By Warfare Area:

Warfare Area Description	ASU	INT	MOB	AAW	AMW	ASW	STW	BMD	C2W	CCC	FSO	NCO	MIW
Threshold	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.70	0.70	0.70	0.60	0.33	
Index	0.50	0.51	0.33	0.50	0.35	0.38	0.44	0.52	0.50	0.51	0.45	0.48	0.34

HULL's
0.73 threshold
0.45 mFOm

Recommended Help

Service Details:
Top 1 of 1 Show All

Data Details:
Top 50 of 199 Show All

Done Local intranet

Scenario based material condition readiness

Work candidates impacting this mission

VAR	LINKED/ LIKE WORK	EFFECT	WC.JSON	EOC	NARRATIVE	AVAIL.	REPAIR ACTIVITY	REC	mFOm-e	Ind	Exc
SU	166	0.61	EM020441	0.3		A123		N	0		
SU	163	0.66	EM020439	0.0	REMOVE AND REPLACE C SUMP	A123		N	11.04		
SU	167	0.78	PE04Q012	0.6	PROVIDE WAREHOUSE	A123		N	41.10		
SU	164	1.0	CF020267	0.0	TAO VDDS MONITOR FAILURE			N	52.58		
SU	165	0.67	CM020226	0.0	BAD MO DRIVE			N	61.19		
SU	130	0.89	EM020393	0.8	CORRODED DRIP PAN			N	75.90		
SU	62	0.92	EM020426	0.8	HOPM FLOW METERS OUT OF CAL			N	79.24		
SU	20	0.80	CG930076	0.0	NIGHT VISION HAS BROKEN KNOB			N	81.13		
SU	119	0.91	OT020072	0.8	MOVE DCC CUT-OUT SWITCH			N	82.25		
SU	42	0.87	CM020187	0.0	BAD POWER SUPPLY IN MCP			N	84.47		
SU	42	0.87	CM020207	0.6	FUSES			N	84.47		
SU	43	0.87	CM020195	0.0	DAMAGED DELUGE HOSE			N	84.47		
SU	43	0.87	CM020196	0.0	DAMAGED DELUGE HOSE			N	84.47		
SU	43	0.87	CM020197	0.0	DAMAGED DELUGE HOSE			N	84.47		
SU	44	0.87	CM020188	0.0	BAD POWER SUPPLY IN MCP			N	84.47		
SU	71	0.87	CM020234	0.0	TRANSFORMERS			N	84.47		
SU	135	0.87	CM020222	0.0	DAMAGED W29 CABLE ASSEMBLY			N	84.47		
SU	135	0.87	CM020192	0.6	DAMAGED DELUGE HOSE			N	84.47		
SU	141	0.87	CM020228	0.6	DAMAGED T3 AND T4 ON A3			N	84.47		
SU	144	0.87	CM020233	0.0	TRANSFORMERS			N	84.47		
SU	139	0.97	CM020224	0.8	IMA PERFORM 7211 R-26			N	84.47		
SU	140	0.97	CM020227	0.8	IMA PERFORM 7211 R-26			N	84.47		
SU	121	0.93	EM010350	0.6	PUMP CALIBRATION REQUIRED	B123		N	85.54		
SU	124	0.93	EM010352	0.8	POST DEPLOYMENT INSPECTION	B123		N	85.54		
SU	123	0.94	EM010351	0.6	CALIBRATION REQUIRED FOR GAGES	B123		N	86.51		
SU	126	0.96	EM040181	0.0	STRIPPED VALVE STEM	B123		N	89.47		
SU	1	0.94	CI020324	0.0		B123		N	89.66		
SU	1	0.94	CI020325	0.0	NO COMMS ON SWCS RADIO	B123		N	89.66		
SU	1	0.94	CSE10006	0.0	NO COMMS ON SWCS RADIO	B123		N	89.66		
SU	1	0.94	CI020322	0.0	NO COMMS ON SWCS RADIO	B123		N	89.66		
SU	1	0.94	CSE10007	0.0	LOSS OF COMMS ON SWCS RADIO	B123		N	89.66		
SU	1	0.94	CSE10008	0.0	NO COMMS ON SWCS RADIO	B123		N	89.66		
SU	1	0.94	CI020323	0.0	NO COMMS ON SWCS RADIOS	B123		N	89.66		
SU	1	0.94	CSE10009	0.0	NO COMMS ON SWCS RADIO	B123		N	89.66		
SU	1	0.94	CSE10010	0.0	NO COMMS ON SWCS RADIO	B123		N	89.66		
SU	90	0.90	EM010349	0.0	FAULTY DISCRET OUTPUT CARD			N	90.53		
SU	138	0.95	CSE10030	0.0	FAULTY SYNTHESIZER ON RCRV 2			N	90.80		
SU	6	0.99	OI01R012	0.0	MISSING RED LIGHT AND PLACARD			N	91.47		
SU	125	0.97	EM010354	0.8	CORROSION CONTROL REQUIRED			N	91.99		
SU	45	0.97	EM020394	0.8	CORROSION CONTROL DOOR 2-262-2			N	92.04		
SU	132	0.93	CF020268	0.0	XSTAB 10 POWER FAILURE			N	92.24		
SU	74	0.96	CSE10004	0.0	BIT TEST FAILURE ON USC-5			N	92.34		



Stop Light Matrix

DDG 85 Add Column Help

	Remove DDG 85	Remove DDG 85	Remove DDG 85	Remove DDG 85
Select scenario	Deployment	Drug Ops	Ammo On/Off Load	Training
Select Availability	current	current	current	current
mFOM value	0.53	0.53	0.53	0.53
AAW	0.55	0.55	0.55	0.55
AMW	0.46	0.46	0.46	0.46
ASU	0.55	0.55	0.55	0.55
ASW	0.47	0.47	0.47	0.47
BMD	0.57	0.57	0.57	0.57
C2W	0.61	0.61	0.61	0.61
CCC	0.57	0.57	0.57	0.57
FSO	0.54	0.54	0.54	0.54
INT	0.57	0.57	0.57	0.57
MIN	0.45	0.45	0.45	0.45
MOB	0.46	0.46	0.46	0.46
NCO	0.55	0.55	0.55	0.55
STW	0.51	0.51	0.51	0.51

Same ship portrays different readiness for different missions

Different ships can be displayed at the same time

Readiness requirements are set by TYCOMs

Readiness be



M-FOM

RIGHT MAINTENANCE. RIGHT TIME. RIGHT COST.

version 2.1.3

SHIP MODEL UPDATE NEWS

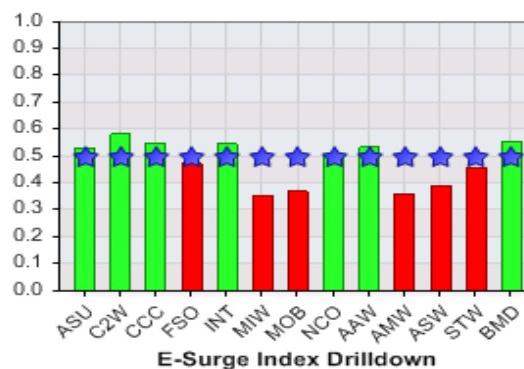
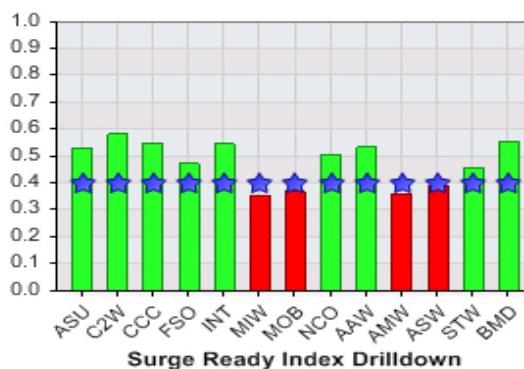
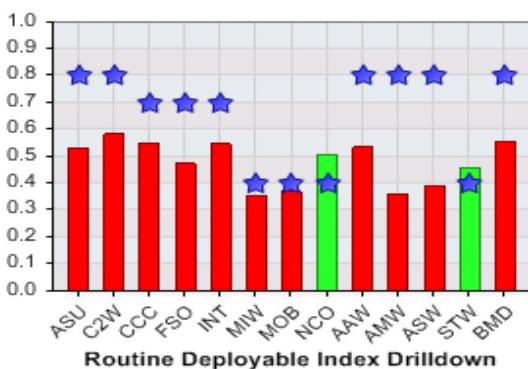
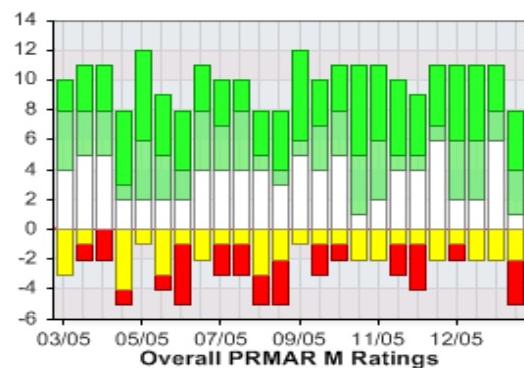
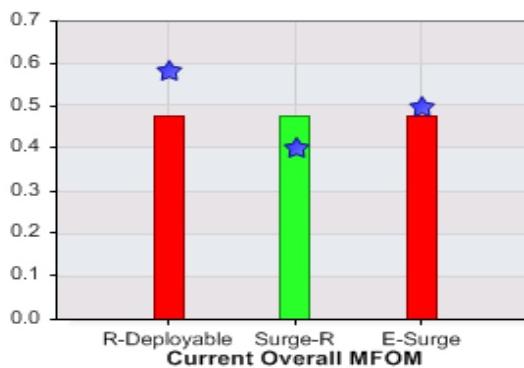
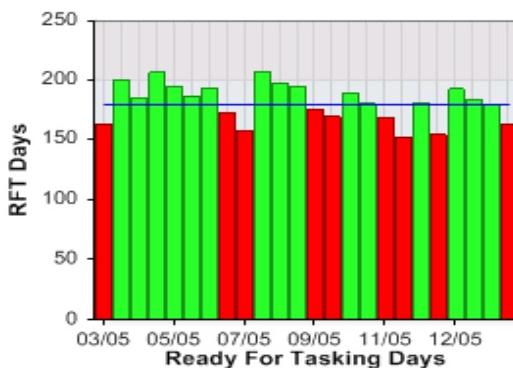
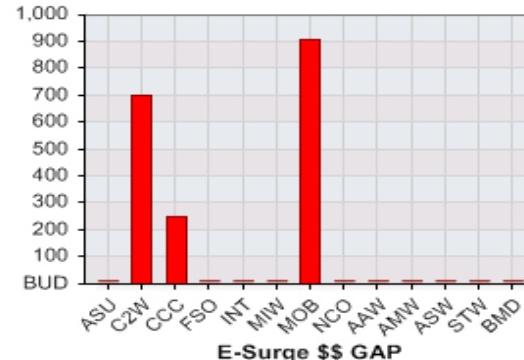
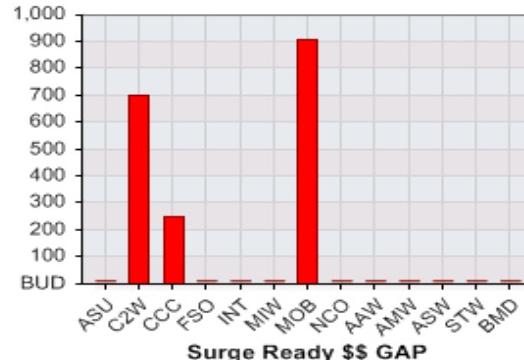
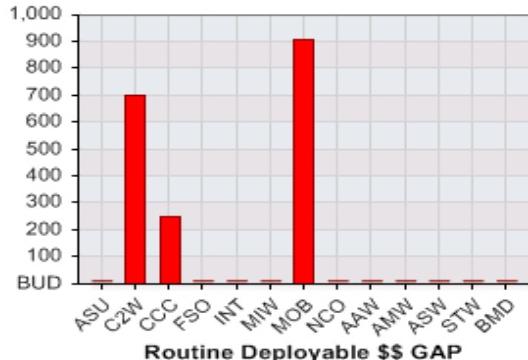
SECURITY LEVEL

UNCLASSIFIED

MY PROFILE : HELP DESK : FAQS : UTILITIES : SEARCH : LOGOUT : ADMINISTRATOR SCREEN

Fleet Maintenance Officer Tools >

Dashboard | Parameters





Regional Maintenance Center Tools ▶

Static : Dynamic : NTA Matrices | Availability Impact | Financial

Static Index Matrix

Printer Friendly

Scenario:

	MFO	ASU	C2W	CCC	FSO	INT	LOG	MIW	MOB	NCO
MCM 1	0.93	0.92	1.00	0.97	0.99	0.99	0.97	0.64	0.89	1.00
MCM 10	0.71	0.73	0.84	0.71	0.77	0.95	0.98	0.10	0.27	1.00
MCM 11	0.83	0.92	0.91	0.82	0.94	0.91	1.00	0.23	0.74	1.00
MCM 12	0.93	0.99	1.00	1.00	0.98	1.00	1.00	0.45	0.92	1.00
MCM 13	0.92	0.98	0.99	0.89	1.00	1.00	1.00	0.65	0.73	1.00
MCM 14	0.86	0.90	0.92	0.89	0.89	1.00	0.97	0.50	0.73	0.99
MCM 2	0.86	0.93	0.94	0.94	0.92	0.97	0.93	0.40	0.72	1.00
MCM 3	0.72	0.89	0.94	0.96	0.76	0.99	0.95	0.00	0.00	0.99
MCM 4	0.88	0.95	0.96	0.99	1.00	0.99	1.00	0.44	0.62	1.00
MCM 5	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MCM 6	0.62	0.84	0.63	0.44	0.81	0.94	0.89	0.00	0.00	0.98
MCM 7	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MCM 8	0.82	0.90	0.96	0.85	0.97	0.99	0.98	0.17	0.50	1.00
MCM 9	0.72	0.88	0.93	0.88	0.91	0.98	0.90	0.00	0.00	0.98



Model Structure

The screenshot shows a Microsoft Internet Explorer window titled "View Ship Model - Microsoft Internet Explorer". The address bar shows the URL "http://172.16.0.104/ViewShipModel.aspx". The page header includes the "m • FOM" logo and a banner with two ship images. The main content area is titled "View Ship Model" and contains a table. The table has columns for "Impact" and "Index". The rows represent different equipment categories and their sub-components. The table is color-coded by category: blue for hull components, orange for electrical/electronic components, yellow for fire protection systems, and light blue for other systems.

	Impact	Index
■ HULL	0.52	0.88
■ CTRL	0.00	0.00
■ PROP	0.00	0.41
■ EEE	0.88	0.93
■ WLR	0.82	0.49
■ CDEF	0.00	0.00
■ PWR	0.00	0.63
■ DC	0.88	
■ DC EQUIP	0.75	0.82
■ DC LOCKER	0.83	0.00
■ CLOSURES	0.83	1.00
■ DECON STATIONS	0.83	1.00
■ EEBD	0.83	1.00
■ LIST/TRIM INDIC	0.83	1.00
■ MAIN AND SECONDARY DRAIN	0.83	0.90
■ ABC	0.75	1.00
■ FF EQUIP	0.75	0.90
■ AFFF	0.80	1.00
■ APC	0.80	1.00
■ FIREMAIN	0.80	0.51
■ ZONE	0.75	1.00
■ ZONE 1	0.75	0.60
■ ZONE 2	0.75	0.00
■ ZONE 6	0.75	1.00
■ HALON	0.80	1.00
■ SPRINKLING	0.80	1.00
■ STRUCTURE	0.75	0.75
■ CSS	1.00	1.00

Colors and
indenture
show model
levels

Column shows
impact of
individual
equipment on
this warfare
area

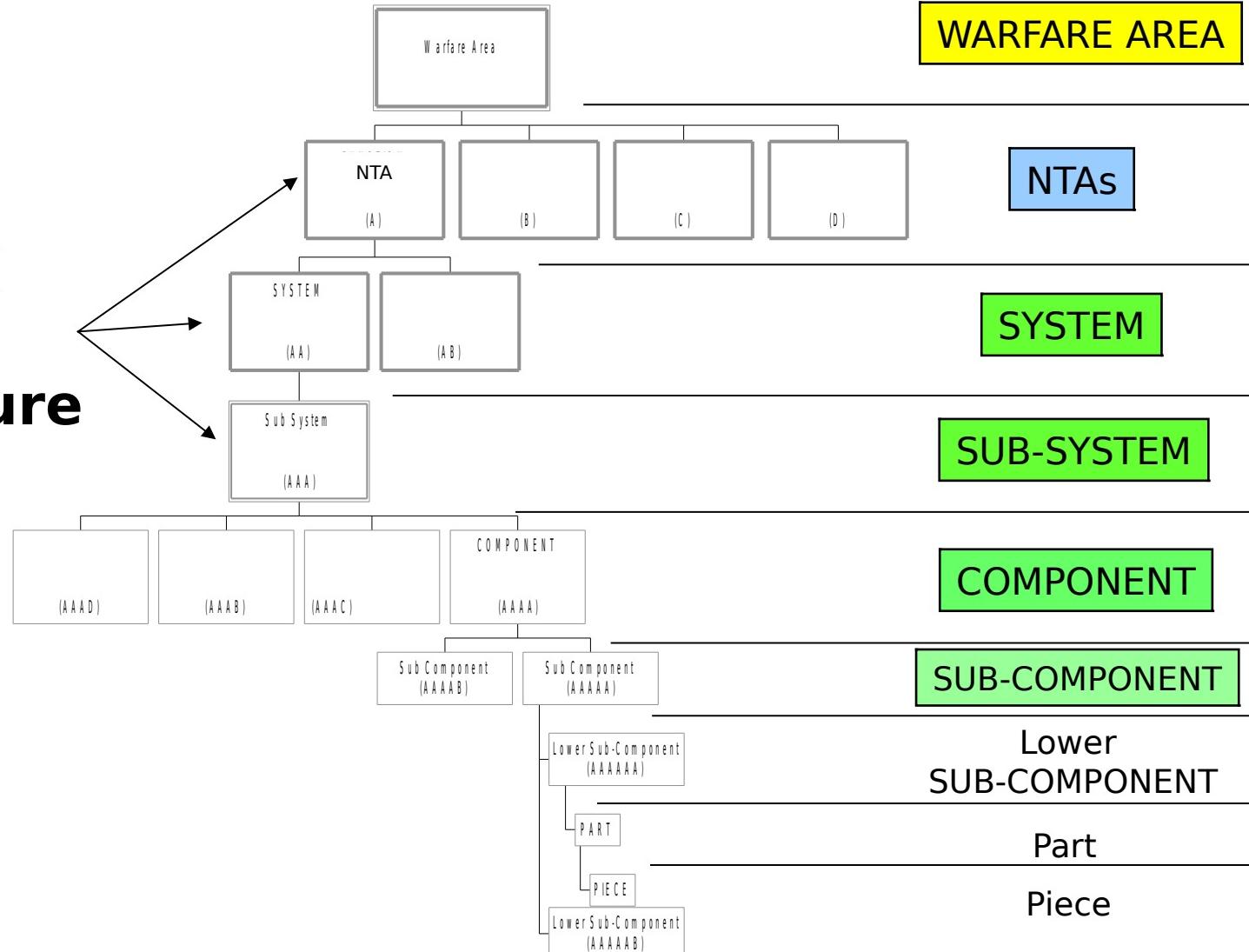
Column shows
equipment
degradation if



Analytical Hierarchical

Ship Material Condition Model Conventions

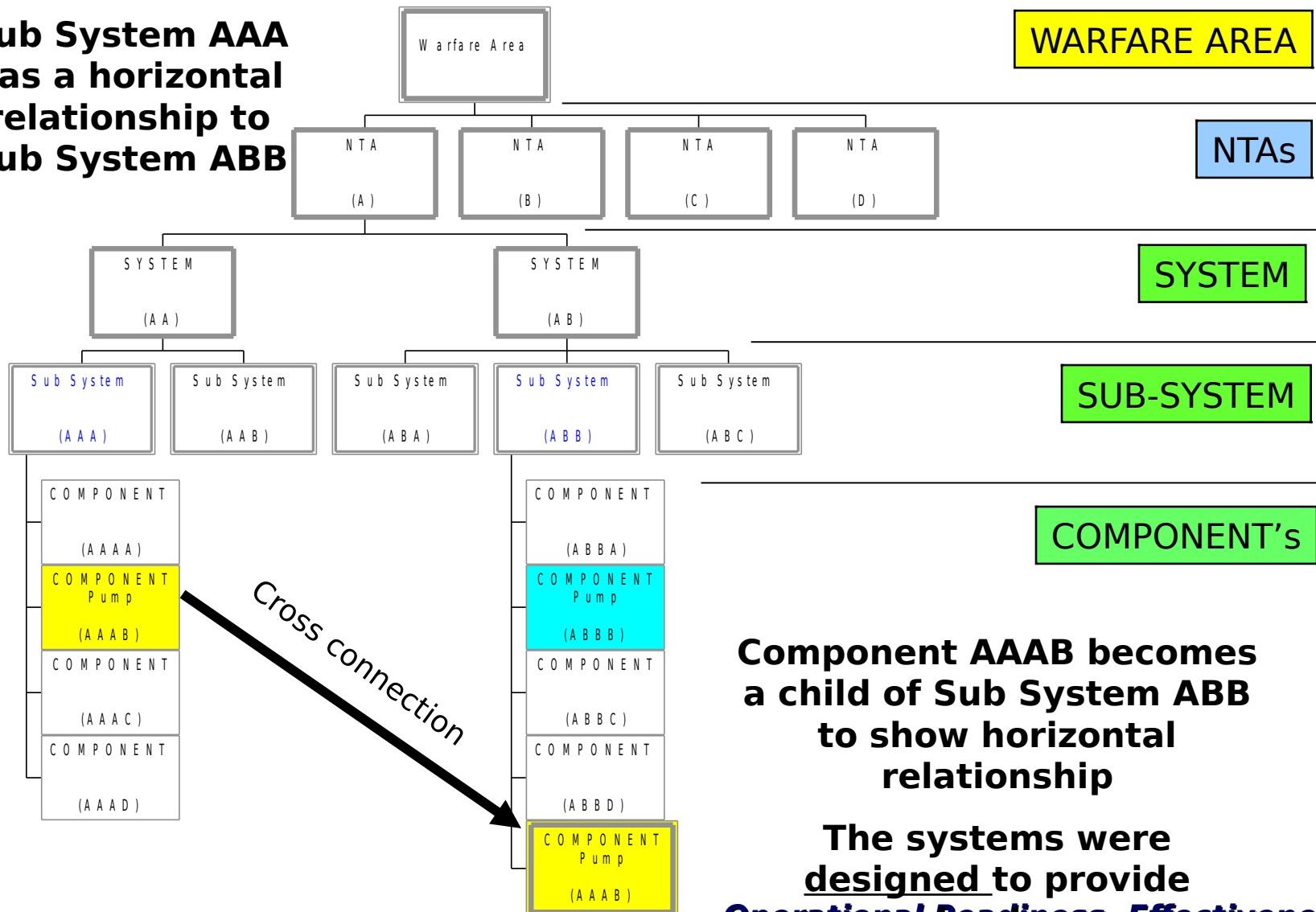
**Level
of
Indenture**





MFOM Horizontal Structure

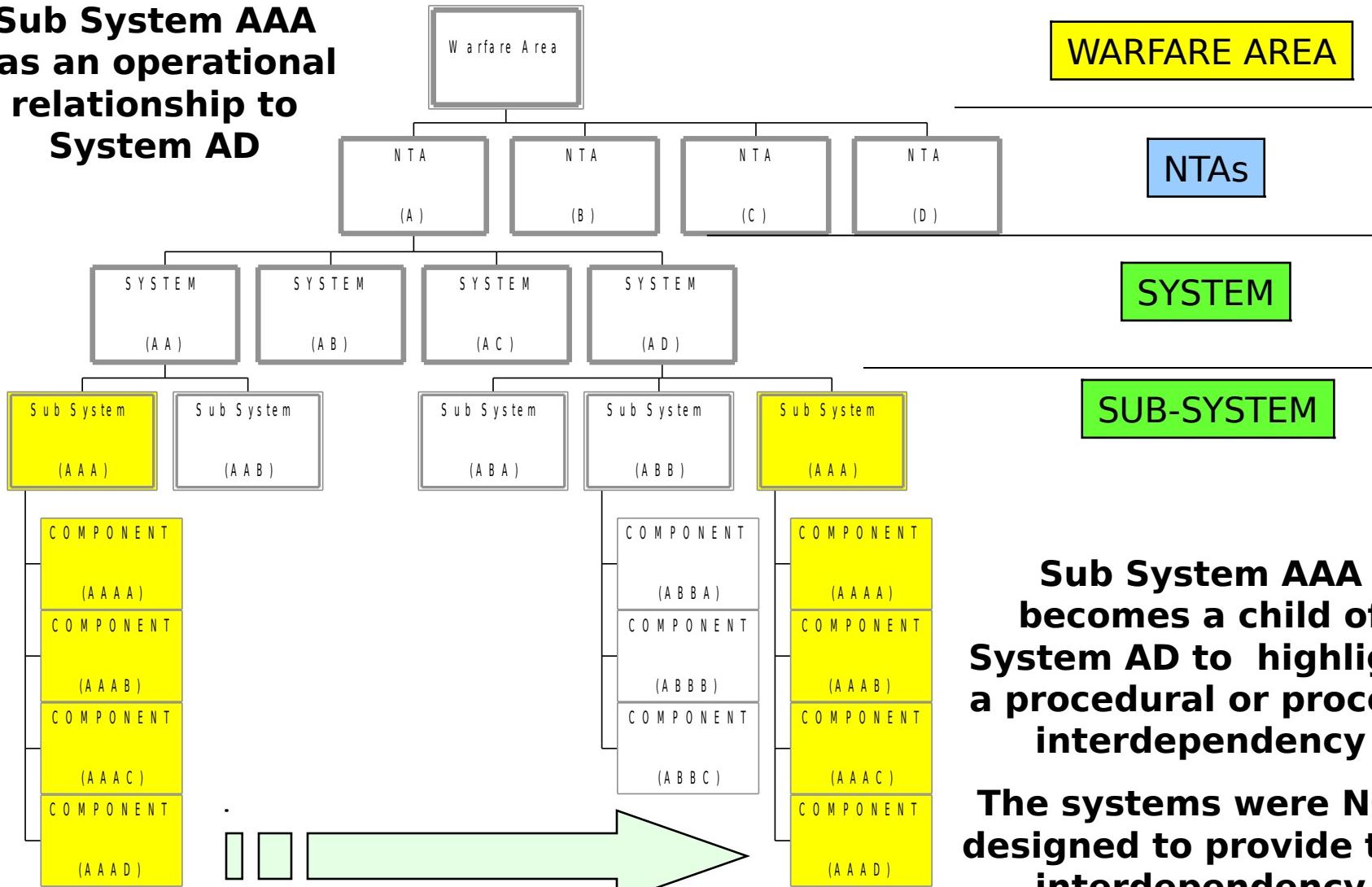
**Sub System AAA
has a horizontal
relationship to
Sub System ABB**





MFOM Operational Structure

**Sub System AAA
has an operational
relationship to
System AD**



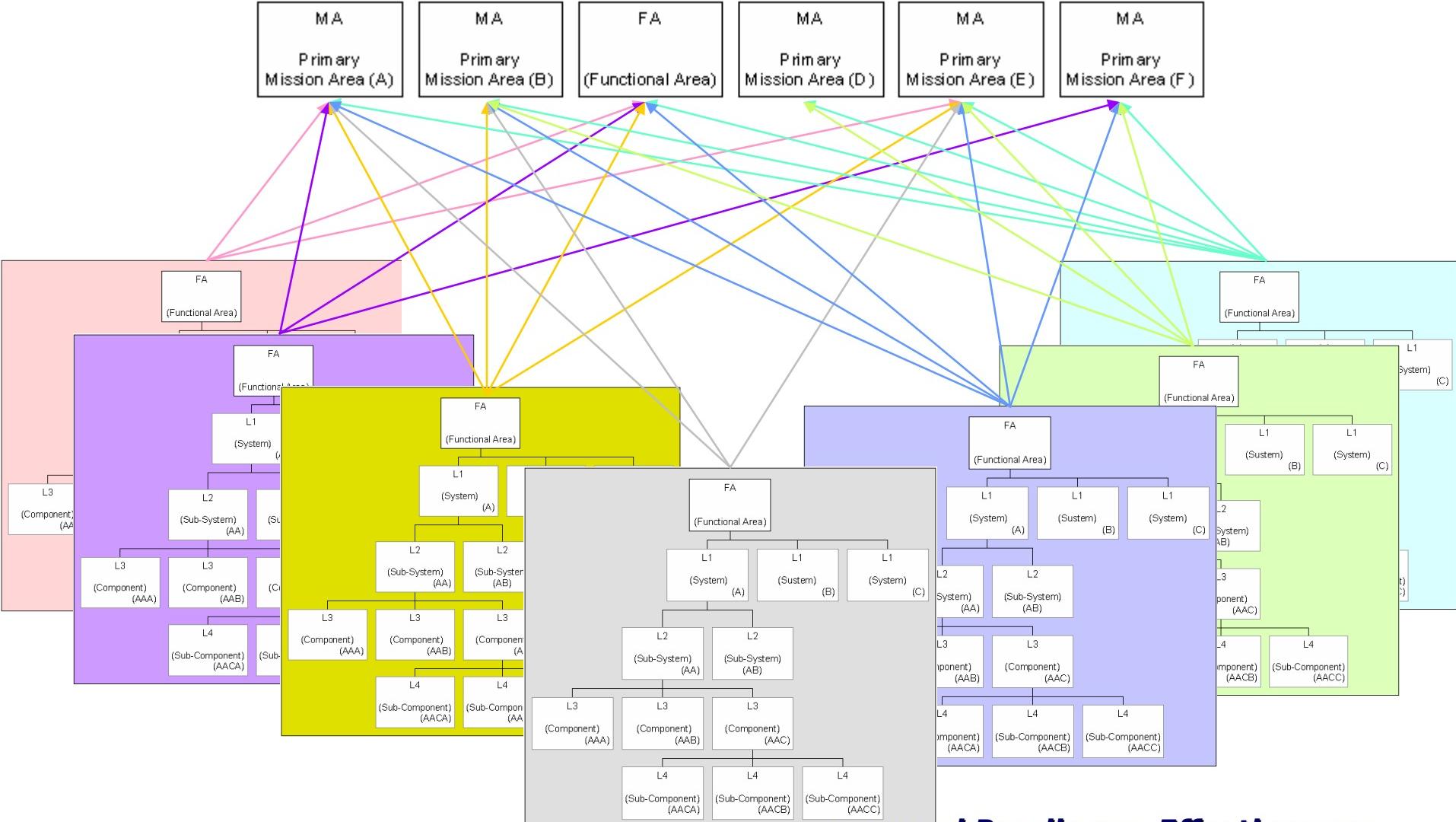
**Sub System AAA
becomes a child of
System AD to highlight
a procedural or process
interdependency**

**The systems were NOT
designed to provide this
interdependency**

*Operational Readiness, Effectiveness,
Primacy*



Mapping the Structure





MFOM Roadmap

MFOM provides the Navy Maintenance community with a single, authoritative, centrally managed application that provides the necessary data upgrades and improvements to support **readiness** and **maintenance** reporting.

- MFOM is designed for easy incorporation into ERP.
- MFOM is the ship **readiness** feed for DRRS-N (equipment pillar)
 - MFOM will address readiness appropriate to the FRTP
- MFOM will be the primary waterfront **maintenance** tool for budgeting, organizing and planning (O, I & D level)
 - MFOM will associate detailed funding with appropriate maintenance actions
 - MFOM will improve the interaction between established maintenance tools to leverage necessary capabilities and functionalities.
 - MFOM will provide validation, screening and brokering (VSB) capability for building the maintenance work packages based on metrics.



What's being constructed

Inputs:

Interfaced Apps:

PMS SKED
eSOMS
eDFS
AWN (ETC)
R-SUPPLY
R-ADMIN
RAMIS
OMMS-NG
RMMCO

CASREPS

Interfaced Data:

Degradation Curves
ICMP/CMP
CSMP
Cost data
EOC
WEBSKED
ICAS/IPARS

Classified
Unclassified

MFOM

Models
Core Software
Equations
WT/Impacts
FIN
Scenario
NTAs
Screen/Broker
Afloat Portal

Outputs:

Ship Readiness
Class Readiness
Equip/System Readiness
FRP Cost
Life Cycle Cost
Total Cost
Screening Value
Recommended Repairs
Assessment Results
Predictive:
Readiness
Budget



MFOM

version 2.2
RIGHT MAINTENANCE. RIGHT TIME. RIGHT COST.

SHIP MODEL UPDATE NEWS

SECURITY LEVEL
UNCLASSIFIED

MY PROFILE : HELP DESK : FAQS : UTILITIES : SEARCH : LOGOUT : ADMINISTRATOR SCREEN

3/29/2007

Maintenance Team Tools ▶

Current Status MFOM-s | Availability | Screen Work | Availability Impact | Financial

BUSINESS SENSITIVE

MT Financial

Printer Friendly

Hull: DDG 85

Availability: 11

Scenario: Deployment

Employment: 03/04/2002

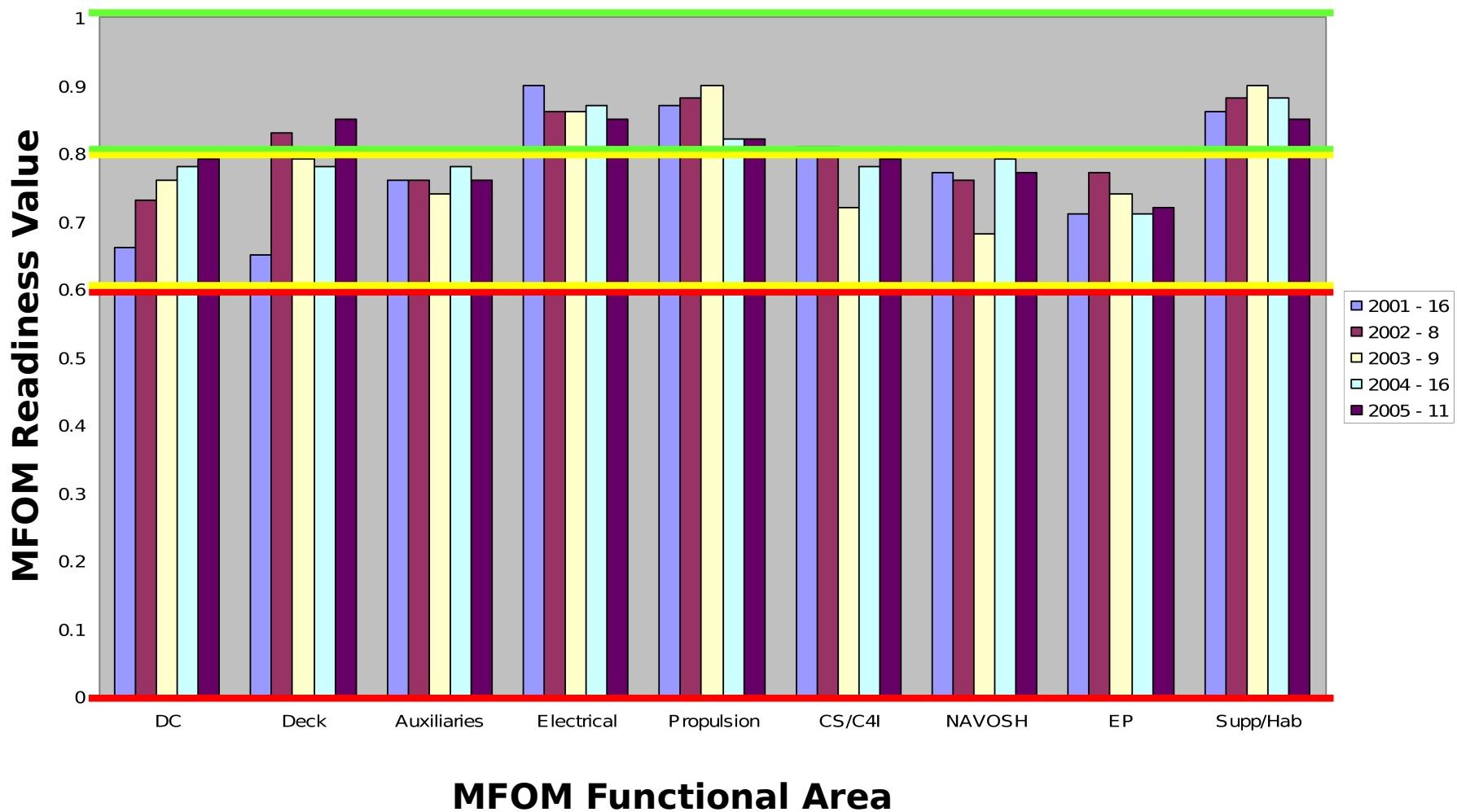
Model Date: 10/18/2005

Data Update: 03/13/2007

ESWBS	JOB	LINKED/ LIKE WORK	NARRATIVE	INDEX	AVAIL	REPAIR ACTIVITY	mFOM	MD's	Total Budget Remaining	GFM Budget Remaining	NAVSEA Budget Remaining
									\$105,000.00	\$80,000.00	\$25,000.00
23311	EM011964	18	J/W PUMP PRESS. LOW	0	A6A4	Activity 3	97.07	5	\$104,950.00		\$24,950.00
2331	EM011890	18	DEI DUE	0.8	A6A4	Activity 3	97.07	10	\$104,850.00		\$24,850.00
23311	EM011941	18	L/O LINE HAS SMALL HOLE	0.8	A6A4	Activity 3	97.07	5	\$104,800.00		\$24,800.00
23311	EM011943	18	CORE LEAKS	0.8	A6A4	Activity 3	97.07	5	\$104,750.00		\$24,750.00
23311	EM011978	18	O-RING WORN	0.8	A6A4	Activity 3	97.07	19	\$104,560.00		\$24,560.00
44151	OE011030	23	BAD K2 KEYLINE RELAY	0	A6A4	Activity 5	40	10	\$104,360.00		\$24,360.00
44151	OE011033	23	FAULTY TRANSMITTER MODULE	0	A6A4	Activity 4	40	5	\$104,260.00	\$79,900.00	
58311	DA01R005	25	TENSION SPRING CORRODED	1	A6A4	Activity 3	12.93	5	\$104,210.00		\$24,310.00
58311	DA01R006	25	DAVIT PAINT DETERIORATING	1	A6A4	Activity 3	12.93	5	\$104,160.00		\$24,260.00
58300	DA01R008	25	MISSING TAKE UP MARKS	1	A6A4	Activity 4	12.93	5	\$104,060.00	\$79,800.00	



INSURV MI Trends



MFOM Functional Area



Maintenance Planning in Predictive MFOM

Corrective Maintenance			Preventive Maintenance			Scheduled Alterations														
Total: 14.00 K\$																				
ASU	INT	MOB	AAW	AMW	ASW	STW	BMD	C2W	CCC	FSO	NCO	MIW	CA DATE	EFFECT	PREF	MFOM	MDAYS	MATERIAL	TOTAL	
WAR FIN	RIN	HSC	EQUIPMENT																	
ASU 570	7AV3R	5121125711	VALVE OPERATOR						11/12/2009			0 0.93 0.93			7			0.50 K\$ 1.75 K\$		
ASU 572	7AV3T	5121125831	VALVE OPERATOR						02/10/2010			0 0.88 0.88			2			0.50 K\$ 1.25 K\$		
ASU 1079	3050S	654112C	FAN ROOM						06/28/2012			0 0.82 0.81			16			0.50 K\$ 1.50 K\$		
ASU 772	7AWTD	5121223A1	FAN COIL ASSEMBLY 3-317-2						11/26/2012			0 0.73 0.73			40			0.50 K\$ 1.25 K\$		
ASU 10	7EZMW	514112562	VALVE ASSEMBLY, ISOLATION, BRANCH RETURN						07/13/2015			0.18 0.94 0.76			46			0.50 K\$ 1.25 K\$		
ASU 10	7EZMW	514112562	VALVE ASSEMBLY, ISOLATION, BRANCH RETURN						05/15/2055			0.18 0.94 0.76			27			0.50 K\$ 1.25 K\$		
ASU 10	7EZMW	514112562	VALVE ASSEMBLY, ISOLATION, BRANCH RETURN						07/13/2015			0.18 0.94 0.76			46			0.50 K\$ 1.25 K\$		
ASU 10	7EZMW	514112562	VALVE ASSEMBLY, ISOLATION, BRANCH RETURN						05/15/2055			0.18 0.94 0.76			27			0.50 K\$ 1.25 K\$		
ASU 9	7EZDH	514113692	VALVE ASSEMBLY, ISOLATION, BRANCH RETURN						07/09/2010			0.18 0.89 0.73			44			0.50 K\$ 1.75 K\$		
ASU 2	7AH4V	5141125A1	VALVE, ISOLATION, BRANCH SUPPLY						07/29/2012			0.18 0.80 0.65			22			0.50 K\$ 1.50 K\$		
ASU 14735	TES4U	244114	PRPLN SHAFT BEARINGS STERN TUBE BRG						02/14/2009			0.48 0.84 0.43			14			0.50 K\$ 1.75 K\$		
ASU 12807	7AC9P	556132DF	VALVE, SOLENOID OPERATED, AFFF SYSTEM						05/31/2010			0.56 0.80 0.35			9			0.50 K\$ 1.50 K\$		
ASU 24044			TANK						11/16/2008			0.57 0.90 0.38			23			0.50 K\$ 1.75 K\$		
ASU 23925	3057U	6651112	TEST LAB						12/17/2008			0.57 0.88 0.37			36			0.50 K\$ 1.75 K\$		
ASU 14864			TANKS						04/20/2008			0.59 0.90 0.36			5			0.50 K\$ 1.50 K\$		
ASU 15059	7CQDX	234111	GAS GENERATOR						06/18/2008			0.61 0.87 0.33			33			0.50 K\$ 1.75 K\$		
ASU 27666		523011	POTABLE WATER SYSTEM						07/30/2008			0.70 0.73 0.21			30			0.50 K\$ 1.25 K\$		
ASU 6139	7EW1L	16711514	DOOR, STRUCTURAL, 1-130-2						07/26/2007			0.72 0.83 0.25			13			0.50 K\$ 1.25 K\$		
ASU 27668		523011	POTABLE WATER SYSTEM						11/21/2007			0.72 0.87 0.23			29			0.50 K\$ 1.75 K\$		
ASU 6014	7EV2A	1681214H	DOOR, STRUCTURAL, 03-178-1						11/21/2007			0.73 0.87 0.23			12			0.50 K\$ 1.50 K\$		
ASU 27655		523011	POTABLE WATER SYSTEM						04/29/2008			0.73 0.79 0.21			25			0.50 K\$ 1.50 K\$		
ASU 11038	00BIE	5721216	ELECTRIC TRUCK						05/30/2008			0.74 0.77 0.20			38			0.50 K\$ 1.75 K\$		
ASU 1111	7ACFZ	5291184	VALVE, STOP, HOSE CONNECTION						02/25/2007			0.85 0.90 0.03			42			0.50 K\$ 1.50 K\$		

Overdue Funded	Recommended Funded	Not Recommended Funded
Overdue Unfunded	Recommended Unfunded	Not Recommended Unfunded

- **Predictive MFOM Work List**
 - Builds future availabilities based on VSB protocols
 - Uses degradation curves to predict future failures
 - Inputs known Class Maintenance Plan actions and Modernization in out years
 - Uses projected Man-day rates
- **Outputs**
 - Indicates predicted MFOM readiness value based on work list
 - Links modernization to maintenance actions
 - Estimates funding to achieve desired FRP readiness and Life Cycle readiness
 - Provides information to port loading model and OPNAV campaign model



Readiness drill down

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DRRS-N Defense Readiness Reporting System - NAVY

Assessment CNI Status Group Builder Force Management System Info Pers Adhoc -- Select a Group --

Unit Of Interest: CG 68 ANZIO (UNIT OF INTEREST)

Core Assessment SORTSREPHV Assessment

CDR	Computed
0	N

PER	EOP	SUP	TNG	ORD	CBO
C1	C2	C1	C1	C1	C2

Activity: View Print Last Assessed:

Settings
InStaffing Set View
 Automatic Save

Capability

AMW - Amphibious Warfare	Date	CDR	Computed	P	E	S	T	O
NTA1.1.2.3.6 Conduct Flight Operations	14-Apr-2006	0		80	60	88	95	
NTA1.2.1.2.1X Conduct Air Space Management and Control	10-May-2006	Y		80	90	95		
NTA1.2.7 Conduct Tactical Oceanographic Analysis	14-Apr-2006	Y		80	90	95		
NTA3.1.5 Conduct Tactical Combat Assessment	14-Apr-2006	Q	73	75	83	84	50	
NTA3.2.2 Attack Enemy Land Targets	14-Apr-2006	Y	86	95	75	90	78	
NTA3.2.8 Conduct Fire Support	14-Apr-2006	Y	80	85	80		90	
NTA3.2.8.2 Illuminate/Designate Targets	14-Apr-2006	Y		92	96	95		
NTA6.1.1 Protect Individuals and Systems	14-Apr-2006	Q	73	75	83	84	50	
AAW - Anti-Air Warfare	14-Apr-2006	Y	82	83	91	82	90	84
ASW - Antisubmarine Warfare	14-Apr-2006	Y	80	80	83	81	83	
ASU - Antisurface Ship Warfare	14-Apr-2006	Y	87	80	85	80		

SUBMIT ALL

Drill Down Capability

- Clicking on Equipment Pillar bubble brings up top five degraded systems degrading this capability on a ship
- System Name, JSON, ETR, CSMP Summary are displayed



System Name Summary	JSON	ETR	CSMP
Chill Water Sys leaks	EM02-2231	3/09/06	# 2 CWP Seal
Anchor Windlass	EA01-1347	1/15/06	Debris in lube oil



Operational Performance

Values and Definition

Totally Inoperative: 0.0 - The system or equipment not capable of performing required functionality.

Example - when the power switch is turned on

Nothing happens, no lights on the panel, nothing.

Inoperative: 0.2 or 0.1 - System or equipment not capable of performing intended functions using posted operating procedures

Major problems: 0.4 or 0.3 - System or equipment cannot perform one or more intended functions. Functions may be restricted by time, environmental or operational conditions

Fully operable: 1.0 - System or equipment capable of performing all required functions with only cosmetic discrepancies

Operable: 0.9 - System or equipment capable of performing all required functions with minor discrepancies

Minor problems: 0.8 or 0.7 - System or equipment functions when required without modification of operating instructions and procedures. Minor discrepancies are likely to impede function in the near term.

Limited capability: 0.6 or 0.5 - System or equipment is capable of performing intended functions, but at full operational requirements, or not capable of performing required functions